REFERENCE: R-5861

PROJECT: 47427

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

LINE	STATION	PLAN
-L_DETI-	10+00 - 40+11	4 - 5
-L_DET2-	10+00 - 39+12	6 - 7
-L_DET3-	10+00 - 23+06	8
-L_DET4-	10+00 - 42+99	9 - 11
-L_DET6-	10+00 - 31+46	12 - 13
-DET_DRI8-	10+00 - 11+45	9
-DET_DRI8B-	10+00 - 11+40	9
-DET_DRI9-	10+06 - 11+76	9
-DET_DR22-	10+40 - 13+37	12
-DET_YI-	10+00 - 13+24	5
-L-	10+25 - 209+47	14 - 31
-YI-	09+97 - 16+77	15
-Y2-	10+00 - 15+55	15
-Y3-	10+00 - 13+55	17
-Y3A-	10+00 - 12+40	17
-Y4-	12+72 - 14+95	19
-Y5-	10+00 - 11+40	19
-Y6-	11+30 - 17+24	21
-Y7-	10+00 - 13+10	21
-Y8-	10+50 - 12+77	23
-Y9-	10+00 - 13+50	23
-YI0A-	11+00 - 14+04	24
-YI0B-	11+50 - 19+51	25 & 31
-YII-	11+00 - 14+43	25
-YIIA-	10+00 - 14+29	25 - 26
-YI2-	18+67 - 35+00	21 & 31
-YI3-	10+00 - 13+70	31
-DRI-	10+00 - 11+23	14
-DR2-	10+00 - 12+64	14
-DR5-	11+20 - 12+57	16
-DR6-	12+22 - 12+98	17
-DR7-	10+00 - 13+57	16 - 17
-DR8-	12+58 - 13+80	18
-DR9-	10+00 - 11+90	19
-DRI0-	11+10 - 12+40	20
-DRII-	10+00 - 11+50	20
-DRI2-	10+00 - 11+35	21
-DRI3-	10+00 - 11+35	21
-DRI4-	10+00 - 13+00	21 - 22
-DRI5-	10+00 - 13+30	22
-DRI6-	10+45 - 11+99	24
-DRI7-	10+00 - 11+31	24
-DRI8-	10+00 - 11+45	24
-DRI8B-	10+00 - 11+85	24
-DRI9-	10+00 - 11+75	24
-DR20-	10+55 - 11+10	25
-DR2I-	10+00 - 11+25	24
-DR22-	10+00 - 13+37	27
-DR23-	10+00 - 12+09	26
-DR24-	10+00 - 11+32	28

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	10+50 - 208+00	32 - 121
-L_DETI-*	10+00 - 40+00	33 - 46
-L_DET2-*	10+00 - 39+12	58 - 75
-L_DET3-*	10+00 - 23+06	80 - 87
-L_DET4-*	10+00 - 42+99	91 - 107
-L_DET6-*	10+00 - 31+46	110 - 120
-YI-	11+00 - 16+00	122 - 123
-Y2-	11+00 - 13+00	124
-Y3-	11+00 - 13+00	125 - 126
-Y3A-	11+50	127
-Y4-	13+50 - 15+00	128 - 129
-Y5-	11+00	130
-Y6-	10+50 - 16+00	131 - 133
-Y7-	11+00 - 13+00	134
-Y8-	10+50	135
-Y9-	11+00 - 13+50	136 - 137
-YI0A-	11+00 - 13+50	138 - 140
-YI0B-	12+00 - 17+50	141 - 142
-YII-	11+00 - 13+00	143
-YIIA-	11+00 - 13+00	144 - 145
-YI2-	21+50 - 35+00	146 - 147
-DRI-	10+50 - 11+00	148
-DR2-	12+00	149

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *CHEROKEE*

PROJECT DESCRIPTION *WIDENING US 19/129 FROM THE GEORGIA STATE LINE TO US 64/74*

INVENTORY

CROSS SECTIONS

LINE	STATION	SHEETS
-DR5-	12+00	150
-DR6-	12+50	151
-DR7-	11+00 - 13+00	152 - 153
-DR8-	13+00	154
-DR9-	11+50	155
-DRI0-	12+00	156
-DRII-	10+50 - 11+50	157
-DRI2-	10+50	158
-DRI3-	10+50	159
-DRI4-	11+00	160
-DRI5-	11+00	161
-DRI6-	11+00	162
-DRI7	11+00 - 11+25	163
-DRI8-	10+50	164
-DRI9-	10+50	165
-DR20-	10+55 - 10+95	166
-DR2I-	10+00 - 10+50	167 - 168
-DR22-	10+00 - 13+00	169 - 170

• These cross sections are subsets of -L- cross sections.

APPENDICES

APPENDIX	TITLE	SHEETS
A	BORING LOGS	172
B	LAB RESULTS	173 - 175

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5861	1	175

CAUTION NOTICE

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PERSONNEL

J. MIZE

M. METRY

S&ME PERSONNEL

INVESTIGATED BY *RK&K, LLP*

DRAWN BY *A. BOZORGI*

CHECKED BY *G. GOINS*

SUBMITTED BY *RK&K, LLP*

DATE *MARCH 2020*

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NORTH CAROLINA PROFESSIONAL SEAL 041709 ENGINEER GREGORY K. GOINS

DocuSigned by: Greg Goins 3/3/2020
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SIGNATURE DATE

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-DRI2-	10+00 - 11+35	21
-DRI3-	10+00 - 11+35	21
-DRI4-	10+00 - 13+00	21 - 22
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SIGNATURE DATE

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PROJECT REFERENCE NO.	SHEET NO.
R-5861	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5, A-7-6			
SYMBOL														
% PASSING #10	50 MX													
#40	30 MX	50 MX	51 MN											
#200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
MATERIAL PASSING #40														
LL	—		—	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PI	6 MX		NP	10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	NO MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE	< 4	
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	> 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	< 2	< 0.25
	SOFT	2 TO 4	0.25 TO 0.5
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	> 30	> 4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL — LIQUID LIMIT		
PLASTIC RANGE (PI)	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
OM — OPTIMUM MOISTURE	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL — SHRINKAGE LIMIT		
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NON PLASTIC	0-5	VERY LOW
SLIGHTLY PLASTIC	6-15	SLIGHT
MODERATELY PLASTIC	16-25	MEDIUM
HIGHLY PLASTIC	26 OR MORE	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LL < 31
MODERATELY COMPRESSIBLE	LL = 31 - 50
HIGHLY COMPRESSIBLE	LL > 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE	1 - 10%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE	10 - 20%
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME	20 - 35%
HIGHLY ORGANIC	> 10%	> 20%	HIGHLY	35% AND ABOVE

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW — PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 — DIP & DIP DIRECTION OF ROCK STRUCTURES
- SPT / SPT CME / DMT / VST PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING WITH CORE
- SPT N-VALUE

RECOMMENDATION SYMBOLS

- UNDERCUT
- SHALLOW UNDERCUT
- UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
- UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK
- UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS

S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [ ] CME-55
- [ ] CME-550
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] DEIDRICH D-50
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [ ] TRICONE _____" STEEL TEETH
- [ ] TRICONE _____" TUNG.-CARB.
- [ ] CORE BIT
- [ ] _____

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B _____ [ ] -H _____
- [X] -N Q

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [ ] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.
ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. *IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF*
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. *IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF*
COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
MODERATELY HARD	CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
MEDIUM HARD	CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
VERY SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FOOT
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.

ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.

SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.

STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK:

ELEVATION: FEET

NOTES:

ABBREVIATIONS:
F.I.A.D. - FILLED IMMEDIATELY AFTER DRILLING

ROADWAY BORING ELEVATIONS DETERMINED FROM PROVIDED .TIN FILE DATED 7/2/2019.

DATE: 8-15-14

March 2, 2020

WBS Number: 47427.1.1
TIP Number: R-5861
County: Cherokee
Description: Widening US 19/129 from the Georgia State Line to US 64/74

Subject: Roadway Subsurface Inventory Report

PROJECT DESCRIPTION

The project begins at the North Carolina-Georgia state line and extends approximately 4.2 miles north to US 64 in Cherokee County, North Carolina. The project consists of realigning/widening and improvements of existing US 19/129.

Two Diedrich D-50 drill rigs with automatic hammers were used for the geotechnical investigation from July to September of 2019. During this time, a total of 168 Standard Penetration Tests (SPT) borings and 8 Auger probe borings were drilled. Representative soil samples were collected for visual classification and laboratory testing. Bulk samples were collected from select proposed excavation areas for laboratory testing.

The following alignments were investigated. Selected cross sections of these alignments are included in this report.

Line	Stations (±)
-LDET1-	10+00 – 40+00
-LDET2-	10+00 – 39+12
-LDET3-	10+00 – 23+06
-LDET4-	10+00 – 42+99
-LDET6-	10+00 – 31+46
-DET_DR18-	10+00 – 11+45
-DET_DR18B-	10+00 – 11+40
-DET_DR19-	10+00 – 11+76
-DET_DR22-	10+00 – 13+37
-DET_Y1-	10+00 – 13+14
-L-	10+25 – 209+47
-Y1-	09+97 - 16+77
-Y2-	10+00 - 15+55
-Y3-	10+00 - 13+55
-Y3A-	10+00 - 12+40
-Y4-	12+72 - 14+95
-Y5-	10+00 - 11+40
-Y6-	11+30 - 17+24
-Y7-	10+00 - 13+10
-Y8-	10+50 - 12+77
-Y9-	10+00 - 13+50
-Y10A-	11+00 - 14+04
-Y10B-	11+50 - 19+51
-Y11-	11+00 - 14+43
-Y11A-	10+00 - 14+29
-Y12-	18+67 - 35+00
-Y13-	10+00 - 13+70
-DR1-	10+00 - 11+23
-DR2-	10+00 - 12+64
-DR5-	11+20 - 12+57
-DR6-	12+22 - 12+98
-DR7-	10+00 - 13+57
-DR8-	12+58 - 13+80
-DR9-	10+00 - 11+90
-DR10-	11+10 - 12+40
-DR11-	10+00 - 11+50
-DR12-	10+00 - 11+35
-DR13-	10+00 - 11+35
-DR14-	10+00 - 13+00
-DR15-	10+00 - 13+30
-DR16-	10+45 - 11+99
-DR17-	10+00 - 11+31
-DR18-	10+00 - 11+45
-DR18B-	10+00 - 11+85
-DR19-	10+00 - 11+75
-DR20-	10+55 - 11+10
-DR21-	10+00 - 11+25
-DR22-	10+00 - 13+37
-DR23-	10+00 - 12+09
-DR24-	10+00 - 11+32

PHYSIOGRAPHY AND GEOLOGY

The proposed project is located within the Blue Ridge Physiographic Province, along the existing US 19/129 corridor from the Georgia state line to the intersection with US-64/US-74, and passes through a populated rural area. Terrain within the proposed project corridor consists of large hills to mountains separated by mountain streams. The proposed project passes along and between steeply sloping hillsides.

The bedrock underlying the proposed project consists of members of the Ocoee Supergroup and Murphy Belt (Geologic Map of North Carolina, 1985). These rocks include schist, phyllite, slate, quartzite, and assorted slightly metamorphosed sedimentary rocks (metagraywacke, metasiltstone, metasandstone, and metaconglomerate), several of which were encountered and identified during the investigation. Some existing cut slopes within the project have exposed underlying bedrock. The overlying residual soils are a result of physical and chemical weathering of the underlying bedrock.

SOIL PROPERTIES

Soils encountered during the geotechnical investigation are separated into four (4) categories based on soil origin. The origins consist of roadway embankment, artificial fill, alluvial soils, and residual soils.

Roadway Embankment: Materials interpreted as roadway embankment were encountered within the limits of the existing US 19/129 alignment. The roadway embankment generally consisted of loose to dense, sandy GRAVEL (A-1-b) and silty to clayey SAND (A-2-4, A-2-5, A-2-6, A-2-7) and medium stiff to very stiff, sandy to clayey SILT (A-4 and A-5) to sandy silty CLAY (A-6). The thickness of the encountered roadway embankment varied up to 11.5 feet.

Artificial Fill: Artificial fill was found in the proposed project area where land had been graded for construction of businesses and in the parking lots. The fill consists of stiff sandy CLAY (A-6). The thickness of the encountered artificial fill varied up to 2.0 feet.

Alluvial Soils: Alluvial soils were typically associated with drainage features or areas where creeks previously crossed or are adjacent to the proposed alignment. Alluvial soils generally consisted very soft to stiff sandy SILT (A-4) and sandy silty CLAY (A-6, A-7-5, and A-7-6), and very loose silty clayey SAND (A-2-5). The thickness of the encountered alluvial soils varied up to 12.0 feet.

Residual Soils: Soils classified as residual soils generally consisted of very loose to very dense, clayey and silty fine to coarse SAND (A-1-b, A-2-4, A-2-5, A-2-6, A-2-7.) and very soft to hard, sandy SILT (A-4, A-5) and slightly to highly plastic silty CLAY (A-6, A-7-5, A-7-6). Varying amounts of mica and rock fragments were noted within soils interpreted as residual soils.

ROCK PROPERTIES

Weathered Rock: Weathered rock was encountered in sixty-eight (68) borings. Weathered rock was encountered at the following locations above or within six (6) feet of proposed grade:

Line	Stations (±)	Offset
-L-	19+50 – 21+25	LT
-L-	42+00 – 43+50	LT & RT
-L-	44+50 – 49+00	LT & RT
-L-	53+50 – 55+50	LT & RT
-L-	78+50 – 81+50	LT & RT
-L-	85+50 – 95+00	LT & RT
-L-	103+00 – 107+00	LT & RT
-L-	113+00 – 119+00	LT & RT
-L-	121+00 – 123+50	LT & RT
-L-	149+00 – 152+00	LT & RT
-L-	159+50 – 178+50	LT & RT
-L-	185+00 – 190+00	LT & RT
-L_DET2-	18+75 – 24+75	LT & RT
-L_DET3-	10+00 – 12+00	LT & RT
-L_DET4-	19+00 – 22+20	LT & RT
-L_DET4-	31+25 – 32+50	LT & RT
-L_DET4-	35+00 – 39+50	LT & RT
-L_DET6-	14+00 – 22+25	LT & RT
-L_DET6-	23+25 – 26+00	LT & RT
-Y6-	15+00 – 16+75	LT & RT
-Y10B-	13+00 – 15+00	LT & RT
-Y10B-	17+00 – 19+00	LT & RT
-DR9-	10+50 – 12+50	LT & RT
-DR14-	10+00 – 12+00	LT & RT
-DR15-	10+75 – 11+75	LT & RT
-DR22-	10+25 – 11+25	LT & RT
-DR23-	10+75 – 11+25	LT & RT

Crystalline Rock: Crystalline rock is defined as auger refusal or SPT refusal with penetration by split spoon of less than or equal to 0.1 feet per 60 blows. Crystalline rock was encountered in twenty-three (23) borings. Crystalline rock was encountered at the following locations above or within six (6) feet of proposed grade:

Line	Stations (±)	Offset
-L-	18+25 – 19+50	LT
-L-	43+50 – 45+50	LT & RT
-L-	88+25 – 89+25	LT
-L-	90+25 – 92+75	LT
-L-	117+00 – 118+75	RT
-L-	165+50 – 167+50	LT & RT
-L_DET2-	18+40 – 19+40	LT & RT
-L_DET2-	20+50 – 23+00	LT & RT
-L_DET4-	19+20 – 20+75	LT & RT
-L_DET4-	35+00 – 36+90	LT & RT

GROUNDWATER

Groundwater was encountered during drilling operations (0-hr reading) within thirty-one (31) borings at elevations ranging from 1613.8 to 1759.6. Static (24-hr reading) measurements were recorded within forty-three (43) borings at elevations ranging from 1624.0 to 1766.2.

Ponds: Five (5) ponds are located within or in close proximity of right of way on this project. They are noted at the following locations:

Line	Stations (±)	Offset
-L-	82+24 – 86+61	RT
-L-	99+98 – 102+30	RT
-L-	102+81 – 105+11	RT
-Y9-	12+00 – 13+17	RT
-DR9-	10+04 – 10+79	LT

Water wells: Two water wells are located within right of way on this project. They are noted at the following locations:

Line	Stations (±)	Offset
-L-	107+43	LT
-L-	158+74	LT
-Y6-	12+64	LT
-Y10B-	17+32	LT

AREAS OF SPECIAL GEOTECHNICAL INTEREST

Alluvial Soils: Alluvial soils were encountered along the proposed alignments at the following locations:

Line	Stations (±)	Offset
-L-	33+00 – 34+46	LT
-L-	35+96 – 37+19	LT
-L-	56+00 – 58+80	RT
-L-	71+21 – 73+64	LT & RT
-L-	83+90 – 86+26	LT & RT
-L-	126+57 – 128+25	LT & RT
-L_DET3-	14+40 – 16+55	LT & RT

Artificial Fill: Artificial fill was encountered along the proposed alignments at the following locations:

Line	Stations (±)	Offset
-DR7-	10+64 – 11+55	LT& RT
-L-	108+19 – 110+30	LT
-DR21-	10+00 – 10+95	LT & RT

Soft, Loose and/or Wet Soils: Relatively soft or loose and/or wet soils were encountered along the proposed alignments at the following locations:

Line	Stations (±)	Offset
-L_DET3-	14+43 – 15+13	RT
-L_DET3-	15+75 – 16+55	RT
-L-	126+90 – 128+25	LT
-Y9-	12+60 – 13+20	RT

Highly Plastic Soils: Highly plastic soils with plasticity indices (PI) greater than 25 and within proposed cut sections or PI greater than 35 and/or high liquid limit within 3-ft of subgrade were encountered at the following locations:

Line	Stations (±)	Offset
-L-	21+75 – 26+75	LT & RT
-L-	137+25 – 139+25	LT
-L-	158+75 – 160+75	LT & RT
-L-	170+75 – 172+75	LT & RT
-L-	190+75 – 192+25	LT & RT
-DR17-	10+20 – 11+40	LT & RT

Groundwater: Groundwater was encountered at the following locations above or within six (6) feet of the proposed grade:

Line	Stations (±)	Offset
-L-	17+75 – 18+75	LT & RT
-L-	23+50 – 29+50	LT & RT
-L-	43+50 – 45+50	LT & RT
-L-	73+50 – 75+50	LT & RT
-L-	88+25 – 88+75	LT & RT
-L-	105+00 – 111+00	LT & RT
-L-	149+25 – 151+00	LT & RT
-L-	163+00 – 165+00	LT & RT
-L_DET2-	18+40 – 18+90	LT & RT
-L_DET4-	18+70 – 20+80	LT & RT
-Y1-	15+00 – 16+77	LT & RT
-Y2-	10+00 – 11+50	LT & RT
-Y6-	15+00 – 17+24	LT & RT
-Y9-	13+20 – 13+50	LT & RT
-Y10B-	16+30 – 19+51	LT & RT

The following areas contain groundwater above or within three (3) feet of the existing grade:

Line	Stations (±)	Offset
-L-	17+75 – 18+75	LT & RT
-L-	23+50 – 29+50	LT & RT
-L-	43+50 – 45+50	LT & RT
-L-	107+00 – 111+00	LT & RT
-L-	149+25 – 151+00	LT & RT
-L-	163+00 – 165+00	LT & RT
-L_DET4-	18+70 – 20+80	LT & RT
-Y1-	15+00 – 16+77	LT & RT
-Y2-	10+00 – 11+50	LT & RT
-Y6-	15+00 – 17+24	LT & RT
-Y10B-	16+30 – 19+51	LT & RT

Prepared by,

DocuSigned by:
Arash Bozorgi 3/3/2020
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Associate Engineer, Geotechnical
Registered, North Carolina 048490

DocuSigned by:
Greg Goins 3/3/2020
4725B2704A9E4D7...

Gregory Goins, PE
Project Manager, Geotechnical
Registered, North Carolina 041709

Appendix A

Bulk Samples

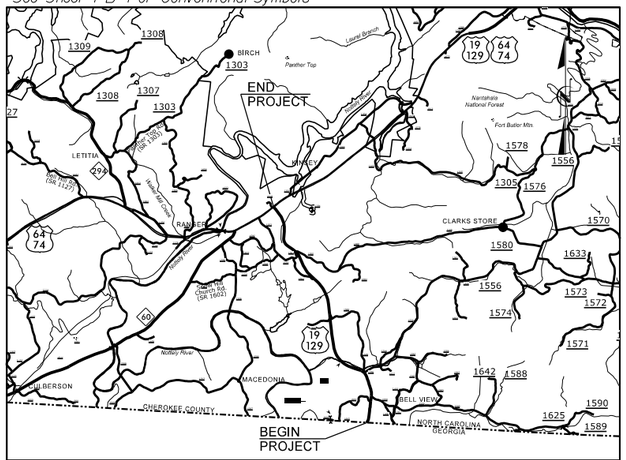
The following bulk samples were collected from cut sections for laboratory testing:

Sample No.	Line	Station	Offset	Depth (ft)	Test(s) Performed
S-225	-L-	90+00	90’ LT	1.0 – 8.5	Standard Proctor, California Bearing Ratio
S-1159	-L-	172+00	0	2.0 – 8.0	Standard Proctor, California Bearing Ratio
S-1041	-L_DET6-	191+99	20’ RT	0.0 – 8.5	Standard Proctor, California Bearing Ratio

TIP PROJECT: R-5861

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

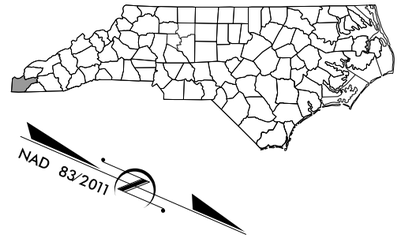
CHEROKEE COUNTY

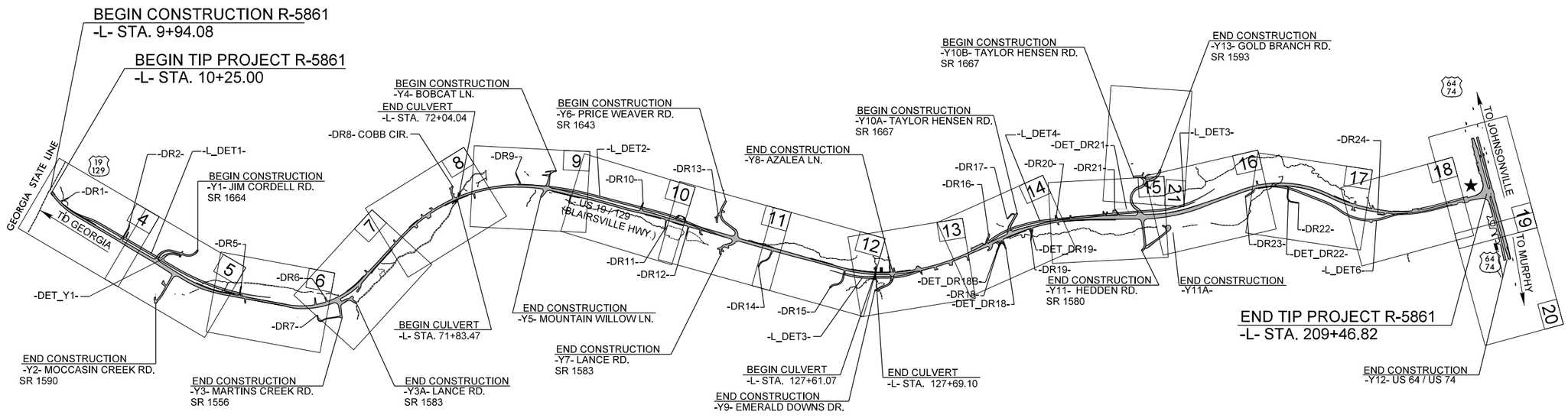
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5861	3	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
47427.1.1	NHP – 0019 (058)	PE
47427.2.1	NHP – 0019 (058)	UTILITIES & R/W

LOCATION: ***WIDENING US 19 /129 FROM THE GEORGIA STATE LINE TO US 64 /74.***

TYPE OF WORK: ***GRADING, PAVING, WIDENING, DRAINAGE, CULVERTS, SIGNING, SIGNALS, & UTILITIES***



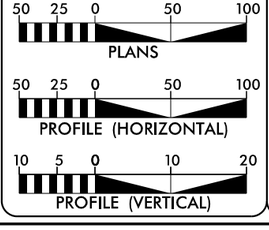


NOTES:
1.THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.
2.CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III (EXCEPT IN PARALLEL STREAM LOCATIONS CLEAR ONLY TO THE SLOPE STAKE LINE.)
3.DESIGN EXCEPTION FOR MINIMUM HORIZONTAL CURVE RADIUS, SAG VERTICAL CURVE, AND VERTICAL STOPPING SIGHT DISTANCE.

★ UPGRADE TRAFFIC SIGNAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2020 = 9,000
ADT 2050 = 11,122
V = 60 MPH
DHV = 8%
D = 55%
T = 4% *
(* TTST = 2% /* DUAL = 2%)
FUNC CLASS = RURAL ARTERIAL
STATEWIDE TIER
DESIGN EXCEPTIONS AS NOTED ON PLANS

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5861.....3.767 miles
LENGTH STRUCTURE TIP PROJECT R-5861.....0.000 miles
TOTAL LENGTH OF PROJECT R-5861.....3.767 miles

PLANS PREPARED BY:
RK&K
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO. F-0112
1-888-521-4455 OR 919-878-9560
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 30, 2019

LETTING DATE: December 15, 2020

Brandon McInnis, P.E.
PROJECT ENGINEER

Jillian Hinson, E.I.
PROJECT DESIGN ENGINEER

NCDOT CONTACT: Kenneth J. McDowell
DIVISION 14

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

09/08/2020
2/26/2020
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Fkeys

PROJECT REFERENCE NO.	SHEET NO.
R-5861	4
R/W SHEET NO.	2B-1
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

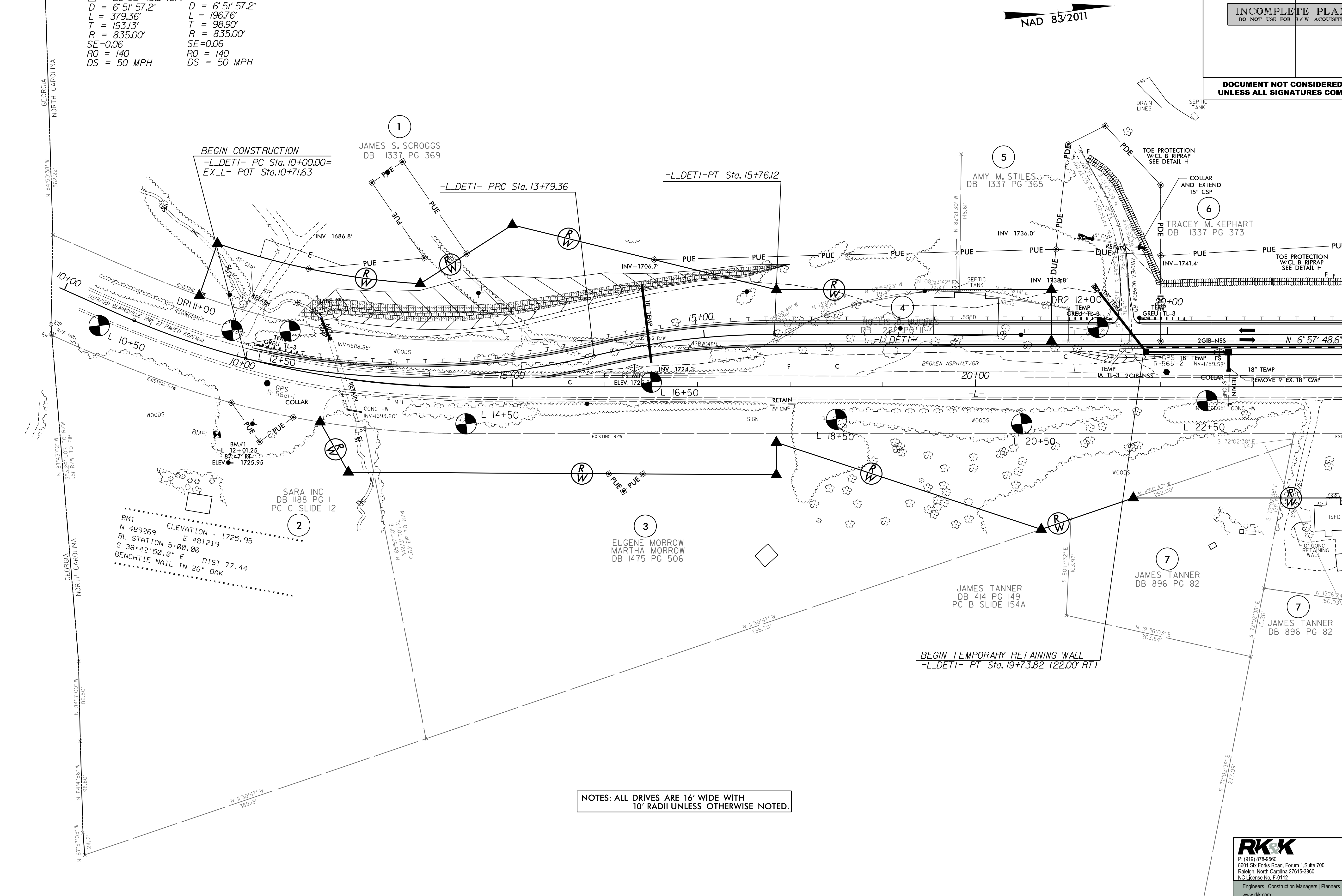
-L_DET1-

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L_DET1-

PI Sta 11+93.13	PI Sta 14+78.25
△ = 26° 02′ 45.8″ (LT)	△ = 13° 30′ 33.5″ (RT)
D = 6° 51′ 57.2″	D = 6° 51′ 57.2″
L = 379.36′	L = 196.76′
T = 193.13′	T = 98.90′
R = 835.00′	R = 835.00′
SE=0.06	SE=0.06
RO = 140	RO = 140
DS = 50 MPH	DS = 50 MPH



NOTES: ALL DRIVES ARE 16′ WIDE WITH 10′ RADII UNLESS OTHERWISE NOTED.

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-L_DET1-

PROJECT REFERENCE NO.	SHEET NO.
R-5861	5
R/W SHEET NO.	2B-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

-L_DET1-
PI Sta 33+73.45
Δ = 25° 40' 02.9" (LT)
D = 1° 58' 45.2"
L = 1,296.84'
T = 659.52'
R = 2,895.00'
SE = 0.04
RO = 90°
DS = 50 MPH

-DET_Y1-
PI Sta 12+46.36
Δ = 76° 08' 01.5" (LT)
D = 38° 56' 32.8"
L = 195.50'
T = 117.48'
R = 150.00'
SE = 0.04
RO = 90°
DS = 25 MPH

-DET_Y1- PC Sta. 11+28.89

-DET_Y1- POT Sta. 10+00.00

-DET_Y1- PT Sta. 13+24.39 = -L_DET1- POT Sta. 25+00.00

-L_DET1- PC Sta. 27+13.93

-L_DET1- PT Sta. 27+92.22 (22.00' RT)

-L_DET1- STA. 25+42.38

MATCHLINE -L_DET1- STA. 22+00 SEE SHEET 4

MATCHLINE INSET

MATCHLINE INSET

11 JAMES S. SCROGGS DB 944 PG 168

6 TRACEY M. KEPHART DB 1337 PG 373

12 RICHARD S. HOHMAN DB 1424 PG 323 DB 1125 PG 786

13 JANET B. STILES DB 1001 PG 508 PC A SLIDE 166

8 JOHNNY R. & NATION DB 479 PG 119

10 DAVID HOBBY DB 955 PG 375

9 CHRISTIAN & SONS LLC DB 1504 PG 317

3 EUGENE MORROW MARTHA MORROW DB 1475 PG 506

14 CHRISTOPHER W. WOOD DB 1607 PG 591

15 MURPHY HIGHWAY LLC DB 1325 PG 30

BM2
ELEVATION = 1745.61
N 491975 E 481428
BL STATION 31+46.00 106 RIGHT
BENCHTIE NAIL IN 8" POPLAR

BM#2
-L- 38+80.95
109.21' RT
ELEV. = 1745.61

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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-L_DET2-

PROJECT REFERENCE NO.	SHEET NO.
R-5861	6
R/W SHEET NO.	2B-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

-L_DET2-
PI Sta 14+81.47
△ = 14° 44' 57.3" (RT)
D = 1° 32' 24.8"
L = 957.61'
T = 481.47'
R = 3,720.00'
SE = 0.03
RO = 70
DS = 50 MPH

BEGIN CONSTRUCTION
-L_DET2- PC Sta. 10+00.00=
-EX_L- POC Sta.79+91.91

BEGIN TEMPORARY RETAINING WALL
-L_DET2- PT Sta.16+12.91 (15.00' LT)

END TEMPORARY RETAINING WALL
-L_DET2- PT Sta.21+69.85 (15.00' LT)

MATCHLINE -LDET2- STA. 24+00 SEE SHEET 7

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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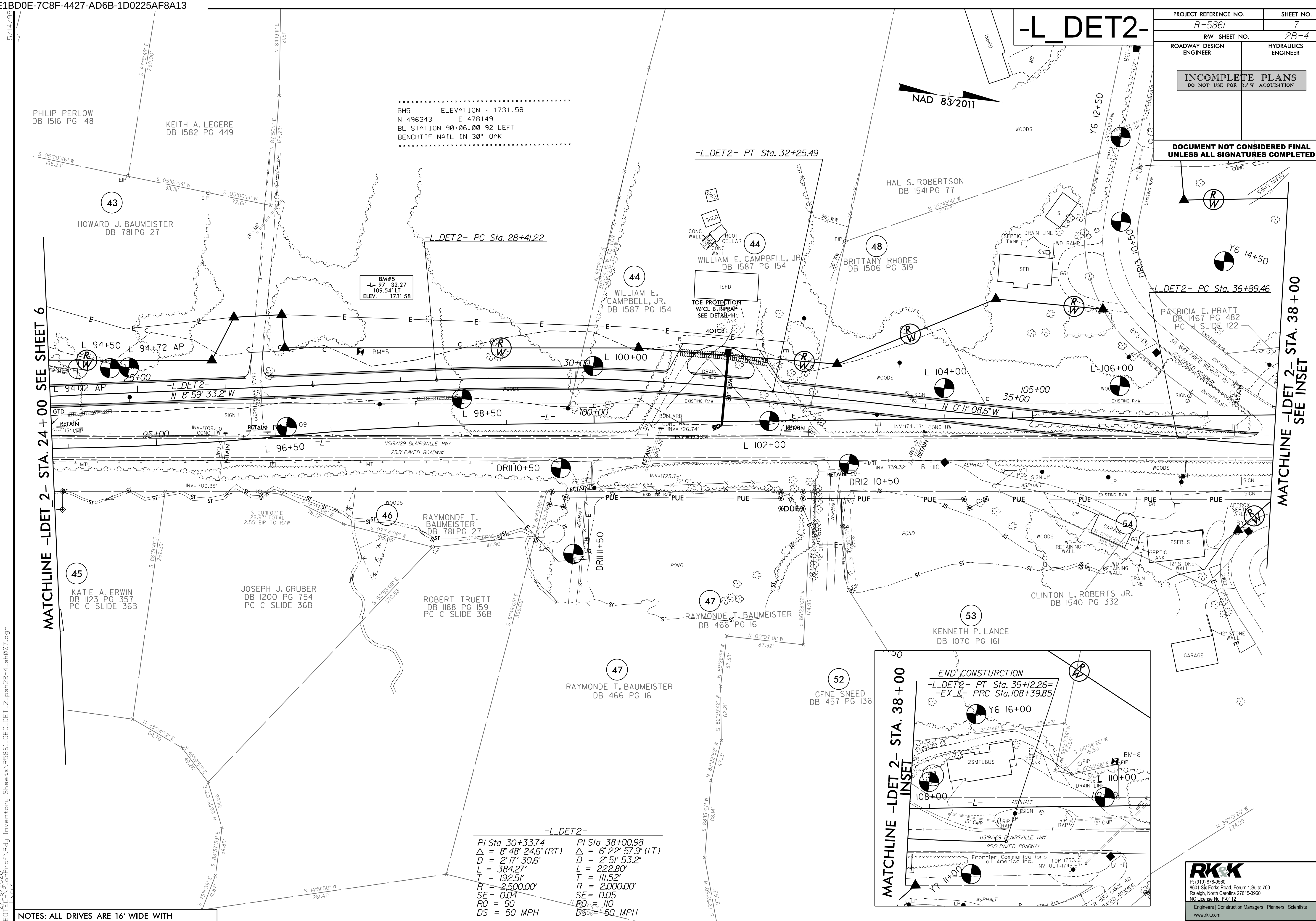
-L_DET2-

PROJECT REFERENCE NO.	SHEET NO.
R-5861	7
R/W SHEET NO.	2B-4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L_DET2-	
PI Sta 30+33.74	PI Sta 38+00.98
Δ = 8° 48' 24.6" (RT)	Δ = 6° 22' 57.9" (LT)
D = 2° 17' 30.6"	D = 2° 51' 53.2"
L = 384.27'	L = 222.80'
T = 192.51'	T = 111.52'
R = 2,500.00'	R = 2,000.00'
SE = 0.04	SE = 0.05
RO = 90	RO = 110
DS = 50 MPH	DS = 50 MPH

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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2/26/2020
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-L_DET3-

PROJECT REFERENCE NO.	SHEET NO.
R-5861	8
R/W SHEET NO.	2B-5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L_DET3-

PI Sta 10+73.43
△ = 8° 23' 59.2" (RT)
D = 5° 43' 55.1"
L = 146.54'
T = 73.43'
R = 1,000.00'
SE = 0.06
RO = 44
DS = 50 MPH

PI Sta 13+29.59
△ = 20° 44' 44.1" (LT)
D = 5° 43' 55.1"
L = 361.93'
T = 183.04'
R = 1,000.00'
SE = 0.06
RO = 132
DS = 50 MPH

PI Sta 19+71.81
△ = 22° 29' 34.2" (LT)
D = 6° 22' 10.1"
L = 353.13'
T = 178.96'
R = 900.00'
SE = 0.06
RO = 132
DS = 50 MPH

PI Sta 22+26.06
△ = 9° 09' 23.9" (RT)
D = 5° 43' 55.1"
L = 159.75'
T = 80.08'
R = 1,000.00'
SE = 0.06
DS = 50 MPH

NAD 83/2011

BEGIN CONSTRUCTION
-L_DET3- PC Sta. 10+00.00=
-EX_L- Sta. POC 121+24.00

-L_DET3- PT Sta. 15+08.47

-L_DET3- PRC Sta. 21+45.99

END CONSTRUCTION
-L_DET3- PT Sta. 23+05.73=
-EX_L- Sta. 134+10.64

-L_DET3- PRC Sta. 11+46.54

-L_DET3- PC Sta. 17+92.85

BM7
ELEVATION = 1676.09
N 498955 E 477848
BL STATION 116+49.00 54 LEFT
BENCHTIE NAIL IN 24" OAK

LP
-L_DET3- STA. 16+54.02
7.4% 3.8%

SARAH SKOMP
DB 1432 PG 686

FRANKIE DOCKERY
DB 983 PG 24

WILLARD SMITH
DB 1308 PG 59

RICHARD DIEHL
DB 1036 PG 105

TITAN SELF STORAGE LLC
DB 1552 PG 154

BRUCE C. CHYNOWETH
DB 1006 PG 649

MANUEL HERNANDEZ
DB 1509 PG 370

MGHI INTRESTS LLC
DB 1501 PG 782
DB 1576 PG 551

MICHAEL HOWARTH
DB 1575 PG 809

GENE P. FARMER
DB 1548 PG 165

BARBARA A. ROBERSON
DB 621 PG 173

NO SEPTIC SYSTEM PER OWNER

COULD NOT ACCESS FOR SEPTIC GATE LOCKED

POSSIBLE FOUNDATION

US19/129 BLAIRSVILLE HWY
26' PAVED ROADWAY

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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-L_DET4-

PROJECT REFERENCE NO.	SHEET NO.
R-5861	9
R/W SHEET NO.	2B-6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

BM8 ELEVATION = 1680.13
N 500442 E 476827
BL STATION 135+35.00 108 LEFT
BENCHTIE NAIL IN 18" OAK

BEGIN CONSTRUCTION
-L_DET4- PC Sta. 10+00.00=
-EX_L- POC Sta.141+84.61

-L_DET4- PRC Sta. 12+57.55

-DET_DRI8- PC Sta. 10+00.00=
-EX_L- POT Sta.145+45.50

-L_DET4- PT Sta. 17+10.81

-L_DET4- PT Sta. 20+27.870

-DET_DRI9- POT Sta. 10+06.07=
-EX_L- POT Sta.147+07.90

LP
-L_DET4- STA. 14+31.93
2.8% 5.2%

-L_DET4- STA. 24+00 SEE SHEET 10

-DET_DRI8- PRC Sta. 10+68.30

-L_DET4- PC Sta. 18+19.61

END CONSTRUCTION
-DET_DRI8- POT Sta. 11+40.00
-DET_DRI8- PT Sta. 11+42.88

-DET_DRI9- PC Sta. 10+31.58

-DET_DRI9- PRC Sta. 11+33.78

END CONSTRUCTION
-DET_DRI9- PT Sta. 11+76.00

LP
-DET_DRI8- POT Sta. 11+87.40
-DET_DRI8- STA. 10+24.00

-DET_DRI8B- PC Sta. 10+00.00=
-DET_DRI8- POT Sta.10+27.70

S 89° 02' 52.0" E

-DET_DRI8B- PT Sta. 10+71.59

-DET_DRI8B- PC Sta. 10+95.36

-DET_DRI8B- PT Sta. 11+15.32

N 85° 14' 02.6" E

END CONSTRUCTION
-DET_DRI8B- POT Sta.11+40.00

-DET_DRI8B- POT Sta.11+40.03

S 47° 51' 31.2" E

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

-L_DET4-		-DET_DRI8-		-DET_DRI8B-		-DET_DRI9-	
PI Sta 11+29.41	PI Sta 14+87.52	PI Sta 19+23.97	PI Sta 10+40.68	PI Sta 11+14.49	PI Sta 10+43.49	PI Sta 11+05.35	PI Sta 10+84.76	PI Sta 11+54.93
Δ = 13° 25' 10.6" (LT)	Δ = 23° 37' 01.0" (RT)	Δ = 9° 10' 43.4" (RT)	Δ = 78° 15' 52.3" (LT)	Δ = 85° 28' 02.8" (RT)	Δ = 82° 02' 03.8" (RT)	Δ = 5° 43' 05.5" (LT)	Δ = 39° 02' 18.7" (RT)	Δ = 8° 03' 46.2" (LT)
D = 5° 12' 37.8"	D = 5° 12' 37.8"	D = 4° 24' 26.5"	D = 114° 35' 29.6"	D = 114° 35' 29.6"	D = 114° 35' 29.6"	D = 28° 38' 52.4"	D = 38° 11' 49.9"	D = 19° 05' 54.9"
L = 257.55'	L = 453.26'	L = 208.26'	L = 68.30'	L = 74.58'	L = 71.59'	L = 19.96'	L = 102.20'	L = 42.22'
T = 129.28'	T = 229.97'	T = 104.35'	T = 40.68'	T = 46.19'	T = 43.49'	T = 9.99'	T = 53.17'	T = 21.14'
R = 1,100.00'	R = 1,100.00'	R = 1,300.00'	R = 50.00'	R = 50.00'	R = 50.00'	R = 200.00'	R = 150.00'	R = 300.00'
	SE = 0.06	SE = 0.06						
	RO = 140	RO = 140						
	DS = 50 MPH	DS = 50 MPH						

COULD NOT FIND SEPTIC TANK, GATES FOR SEPTIC LOCKED

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-L_DET4-

PROJECT REFERENCE NO.	SHEET NO.
R-5861	10
R/W SHEET NO.	2B-7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L_DET4-
PI Sta 32+11.30
Δ = 2° 15' 37.4" (RT)
D = 0° 27' 04.1"
L = 501.03'
T = 250.55'
R = 12,700.00'
SE = N.C.
RO = 50
DS = 50 MPH

PI Sta 38+91.55
Δ = 31° 58' 31.6" (LT)
D = 3° 49' 11.0"
L = 837.11'
T = 429.77'
R = 1,500.00'
SE = 0.06
RO = 140
DS = 50 MPH

MATCHLINE -LDET 4- STA. 24+00 SEE SHEET 9

MATCHLINE -LDET_4- STA. 37+00 SEE SHEET 11

NAD 83/2011

BM9 ELEVATION = 1764.86
N 502205 E 475639
BL STATION 156+53.00 112 LEFT
BENCHTIE NAIL IN 30" POPLAR

-L_DET4- PRC Sta. 34+61.78

HP
-L_DET4- STA. 36+37.50
5.2% 4.0%

-L_DET4- PC Sta. 29+60.75

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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Texus

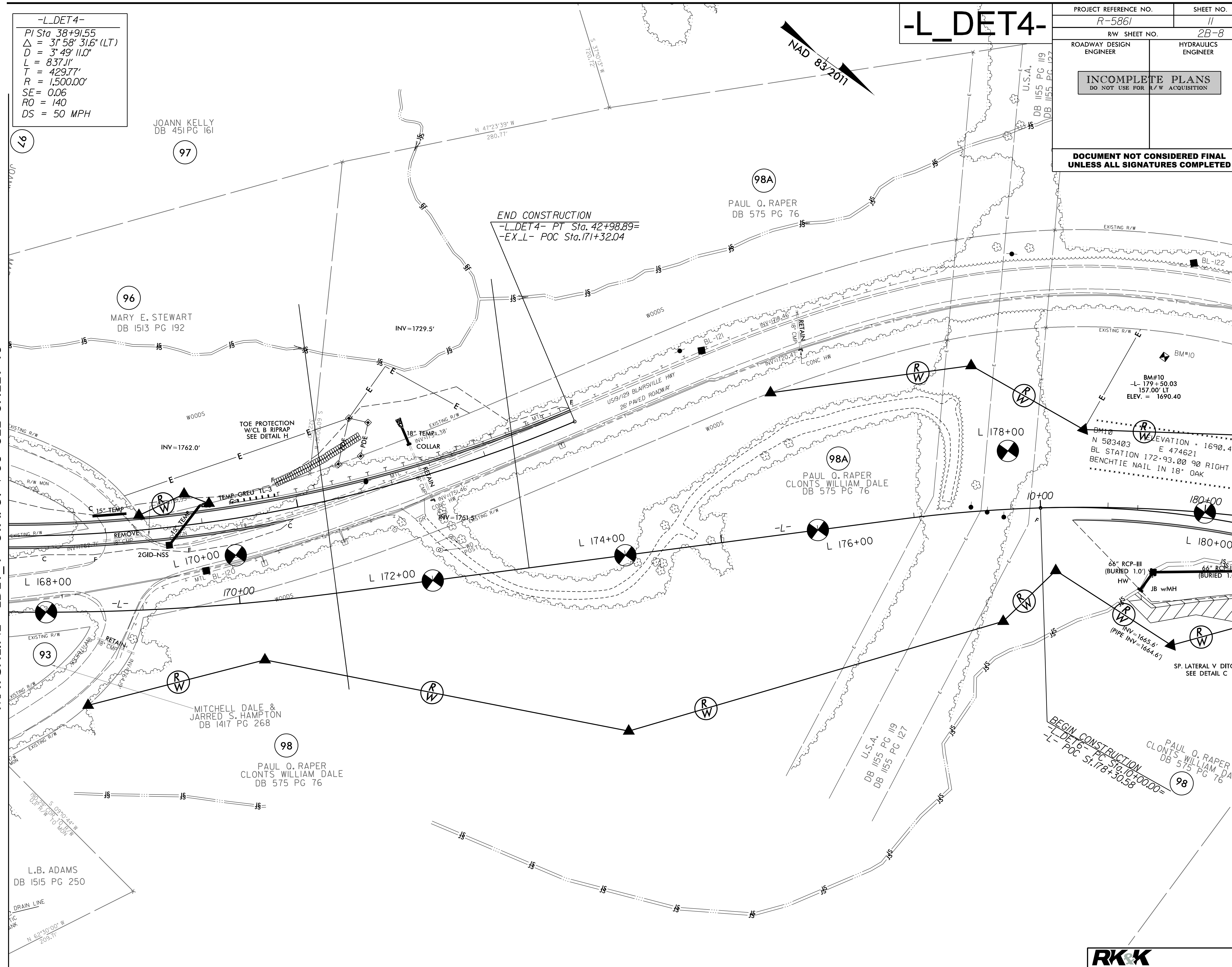
PROJECT REFERENCE NO.	SHEET NO.
R-5861	11
R/W SHEET NO.	2B-8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L_DET4-

-L_DET4-
PI Sta 38+91.55
Δ = 31° 58' 31.6" (LT)
D = 3° 49' 11.0"
L = 837.11'
T = 429.77'
R = 1,500.00'
SE = 0.06
RO = 140
DS = 50 MPH



MATCHLINE -LDET_4- STA. 37+00 SEE SHEET 10

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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-L_DET6-

PROJECT REFERENCE NO.	SHEET NO.
R-5861	12
R/W SHEET NO.	2B-9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

98A PAUL O. RAPER DB 575 PG 76

100 PATRICIA M. FOSTER DB 1390 PG 530

99 OLIVER MINOR DB 810 PG 83

98 PAUL O. RAPER CLONTS WILLIAM DALE DB 575 PG 76

U.S.A. DB 1155 PG 119 DB 1155 PG 127

-L_DET6- PT Sta. 15+84.52

BEGIN CONSTRUCTION
-L_DET6- PC Sta. 10+00.00=
-L- POC Sta. 178+30.58

BEGIN TEMP RETAINING WALL
-L_DET6- Sta. 16+34.18 (100.42' RT)

END TEMP RETAINING WALL
-L_DET6- Sta. 19+42.87 (43.12' RT)

END TEMP RETAINING WALL
-L_DET6- Sta. 20+44.84 (41.08' RT)

END CONSTRUCTION
-DET_DR22- PT Sta. 13+37.00
-DET_DR22- POT Sta. 13+37.99

-L_DET6- POT Sta. 14+63.17=
-DET_DR22- PCC Sta. 10+39.71
-DET_DR22- PC Sta. 11+52.84

-DET_DR22- PT Sta. 12+42.02

-L_DET6- PC Sta. 19+54.29

-L_DET6- PRC Sta. 21+91.61

MATCHLINE -LDET_6- STA. 22+00 SEE SHEET 13

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

-L_DET6-			-DET_DR22-
PI Sta 13+02.06	PI Sta 20+73.64	PI Sta 25+40.12	PI Sta 12+07.98
Δ = 35° 37' 42.0" (RT)	Δ = 15° 06' 30.4" (RT)	Δ = 56° 23' 51.3" (LT)	Δ = 85° 09' 35.0" (LT)
D = 6° 05' 43.1"	D = 6° 21' 58.3"	D = 8° 48' 53.0"	D = 95° 29' 34.7"
L = 584.52'	L = 237.32'	L = 639.81'	L = 89.18'
T = 302.06'	T = 119.35'	T = 348.51'	T = 55.13'
R = 940.00'	R = 900.00'	R = 650.00'	R = 60.00'
SE = 0.06	SE = 0.06	SE = 0.06	SE = 0.02
R0 = 132	R0 = 132	R0 = 132	DS = 15 MPH
DS = 50 MPH	DS = 50 MPH	DS = 45 MPH	

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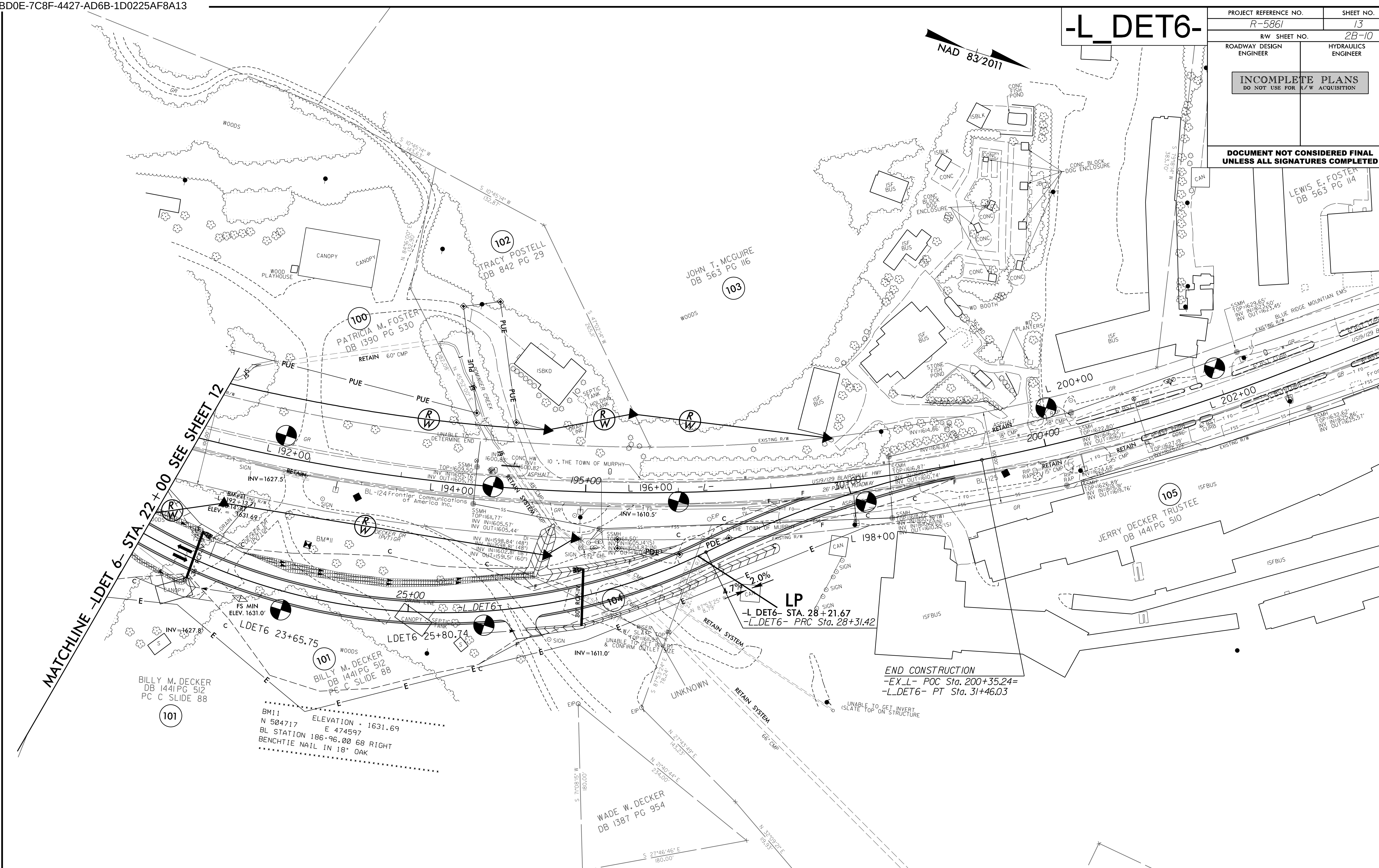
PROJECT REFERENCE NO.	SHEET NO.
R-5861	13
R/W SHEET NO.	2B-10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L_DET6-

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L_DET6-

PI Sta 25+40.12	PI Sta 29+89.61
Δ = 56° 23' 51.3" (LT)	Δ = 14° 50' 09.3" (RT)
D = 8° 48' 53.0"	D = 4° 42' 56.5"
L = 639.81'	L = 314.61'
T = 348.51'	T = 158.19'
R = 650.00'	R = 1,215.00'
SE = 0.06	SE = 0.06
RO = 132	DS = 50 MPH
DS = 45 MPH	

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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-L-	-DR1-	-DR2-	
PI Sta 12+56.73	PI Sta 10+80.09	PI Sta 9+91.87	PI Sta 10+50.35
Δ = 24° 05' 46.1" (LT)	Δ = 6° 06' 49.5" (LT)	Δ = 13° 05' 15.7" (LT)	Δ = 28° 53' 59.0" (RT)
D = 6° 09' 39.0"	D = 7° 01' 48.6"	D = 21° 37' 15.8"	D = 52° 05' 13.5"
L = 391.12'	L = 86.96'	L = 60.53'	L = 55.48'
T = 198.49'	T = 43.52'	T = 30.40'	T = 28.35'
R = 930.00'	R = 815.00'	R = 265.00'	R = 110.00'
SE = 0.06	SE = 0.02	SE = 0.02	SE = 0.02
RO = 150'	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH
DS = 50 MPH			

PROJECT REFERENCE NO.	SHEET NO.
R-5861	14
R/W SHEET NO.	4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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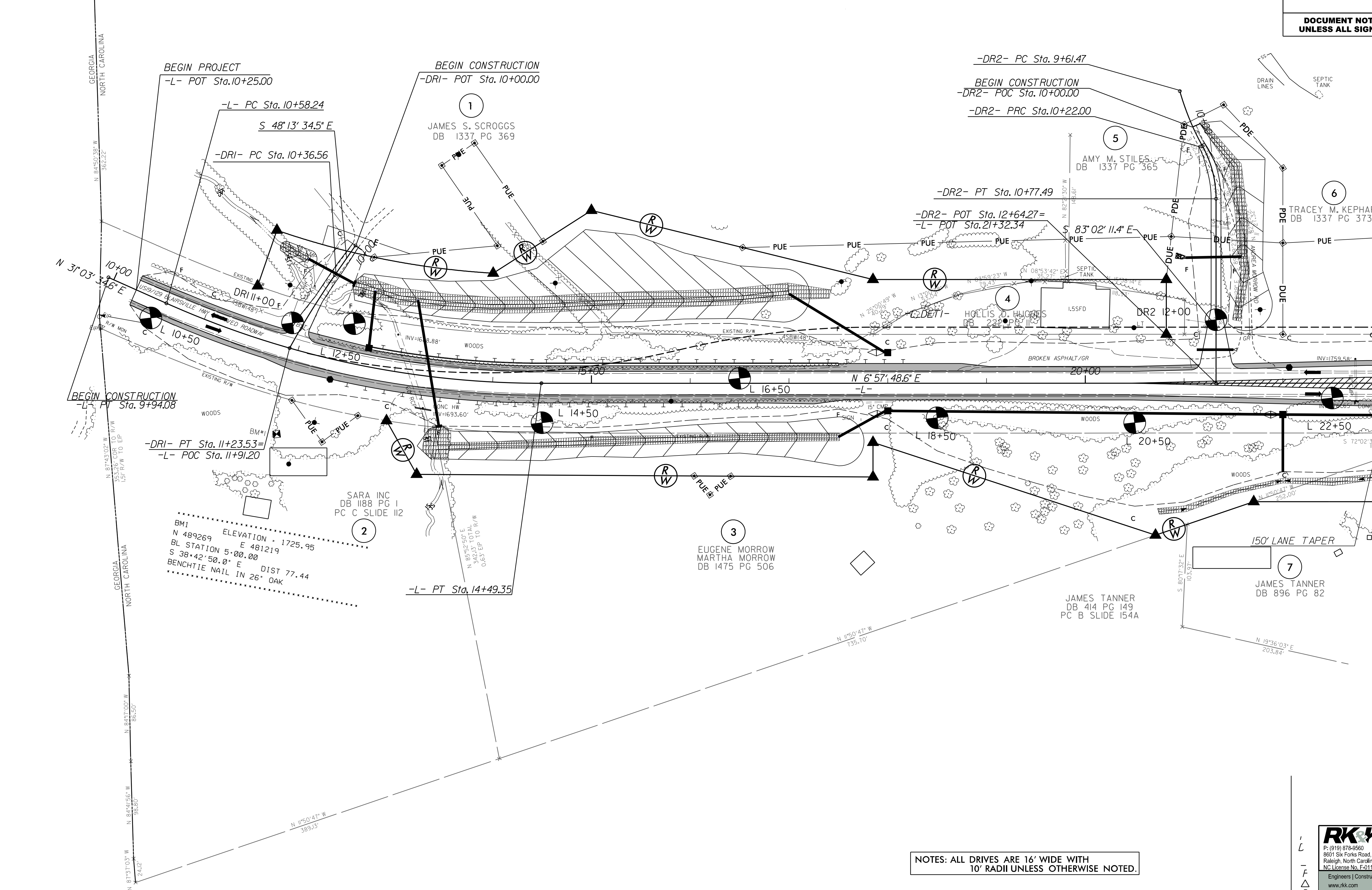

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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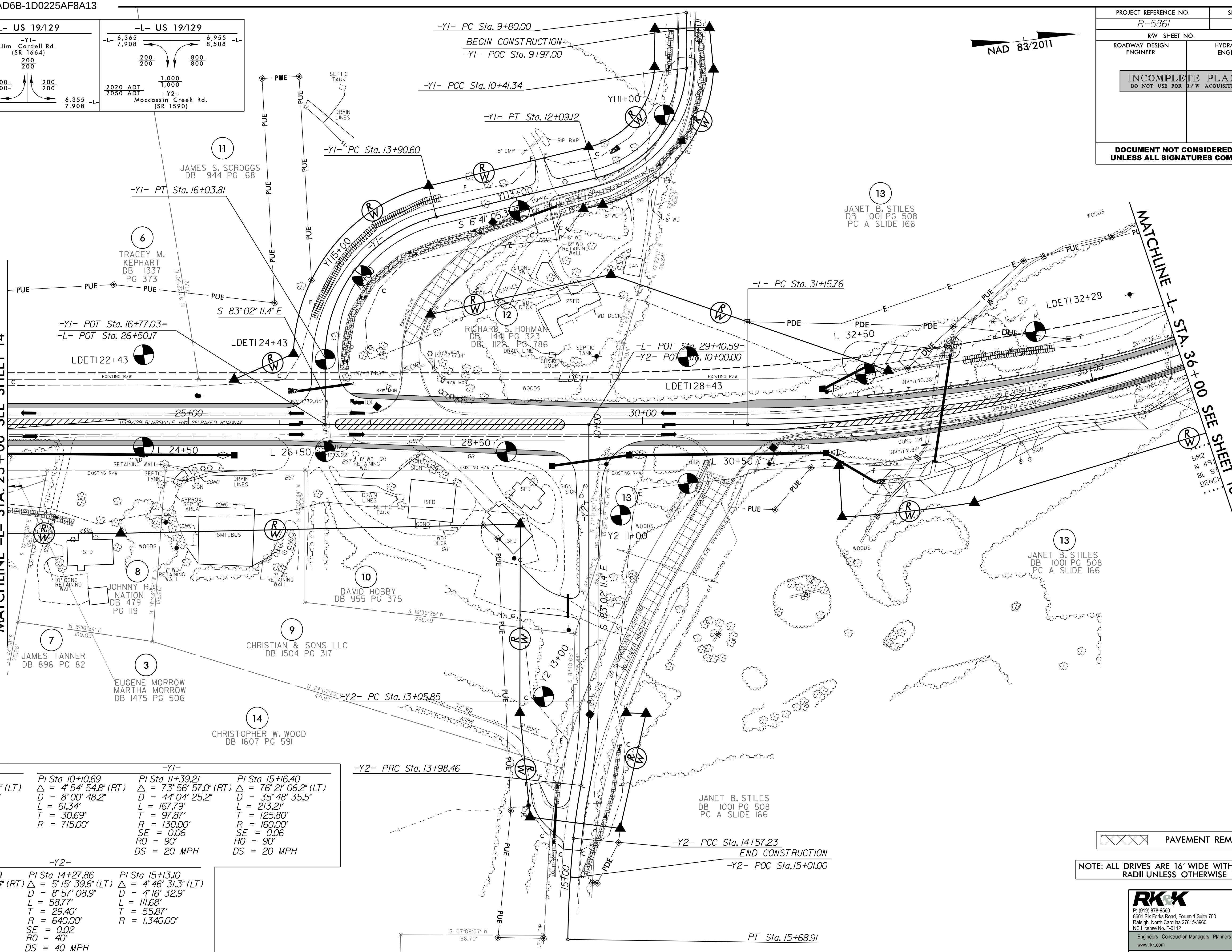
PROJECT REFERENCE NO.	SHEET NO.
R-5861	15
R/W SHEET NO.	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- US 19/129
2020 ADT / 2050 ADT — -Y1- Jim Cordell Rd. (SR 1664)
200 / 200; 100 / 100; 200 / 200
-L- 6,155 / 7,708; 6,355 / 7,908 -L-

-L- US 19/129
-L- 6,365 / 7,908; 6,955 / 8,508 -L-
200 / 200; 800 / 800; 1,000 / 1,000
2020 ADT / 2050 ADT — -Y2- Moccassin Creek Rd. (SR 1590)



-L-	-Y1-		
PI Sta 33+81.27	PI Sta 10+10.69	PI Sta 11+39.21	PI Sta 15+16.40
△ = 19° 56' 40.6" (LT)	△ = 4° 54' 54.8" (RT)	△ = 73° 56' 57.0" (RT)	△ = 76° 21' 06.2" (LT)
D = 3° 47' 39.9"	D = 8° 00' 48.2"	D = 44° 04' 25.2"	D = 35° 48' 35.5"
L = 525.63'	L = 61.34'	L = 167.79'	L = 213.21'
T = 265.50'	T = 30.69'	T = 97.87'	T = 125.80'
R = 1,510.00'	R = 715.00'	R = 130.00'	R = 160.00'
SE = 0.06		SE = 0.06	SE = 0.06
RO = 210'		RO = 90'	RO = 90'
DS = 60 MPH		DS = 20 MPH	DS = 20 MPH

-Y2-		
PI Sta 13+52.29	PI Sta 14+27.86	PI Sta 15+13.10
△ = 10° 49' 45.4" (RT)	△ = 5° 15' 39.6" (LT)	△ = 4° 46' 31.3" (LT)
D = 11° 41' 34.9"	D = 8° 57' 08.9"	D = 4° 16' 32.9"
L = 92.61'	L = 58.77'	L = 111.68'
T = 46.44'	T = 29.40'	T = 55.87'
R = 490.00'	R = 640.00'	R = 1,340.00'
SE = NC	SE = 0.02	
RO = 40'	RO = 40'	
DS = 40 MPH	DS = 40 MPH	

PAVEMENT REMOVAL

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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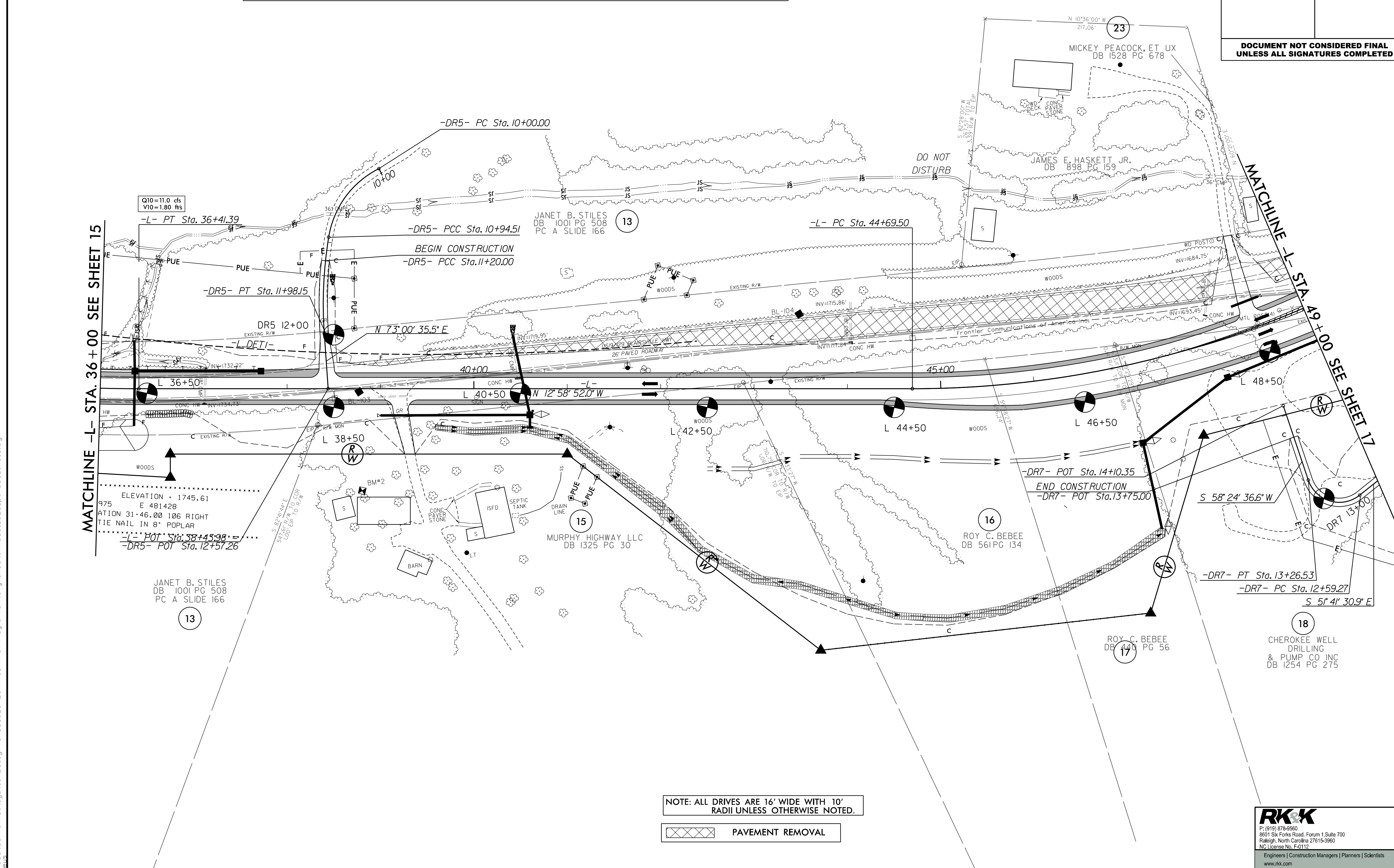
PROJECT REFERENCE NO.	SHEET NO.
R-5861	16
R/W SHEET NO.	6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-	-L-	-DR5-	-DR5-	-DR7-
PI Sta 33+81.27	PI Sta 50+66.87	PI Sta 10+51.11	PI Sta 11+46.56	PI Sta 13+09.35
Δ = 19° 56' 40.6" (LT)	Δ = 58° 48' 26.3" (LT)	Δ = 54° 08' 51.5" (LT)	Δ = 13° 11' 45.2" (LT)	Δ = 110° 06' 07.5" (RT)
D = 3° 47' 39.9"	D = 5° 24' 18.9"	D = 57° 17' 44.8"	D = 12° 43' 56.6"	D = 163° 42' 08.0"
L = 525.63'	L = 1,087.96'	L = 94.51'	L = 103.64'	L = 67.26'
T = 265.50'	T = 597.37'	T = 51.11'	T = 52.05'	T = 50.08'
R = 1,510.00'	R = 1,060.00'	R = 100.00'	R = 450.00'	R = 35.00'
SE = 0.06	SE = 0.06	SE = 0.02	SE = 0.02	SE = 0.02
RO = 210'	RO = 195'	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH
DS = 60 MPH	DS = 55 MPH			



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PAVEMENT REMOVAL

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PROJECT REFERENCE NO.	SHEET NO.
R-5861	17
R/W SHEET NO.	7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-		-Y3A-	-DR6-		-DR7-
PI Sta 50+66.87	PI Sta 59+39.36	PI Sta 11+44.57	PI Sta 11+21.86	PI Sta 11+78.95	PI Sta 12+00.39
Δ = 58° 48' 26.3" (LT)	Δ = 1° 27' 31.2" (RT)	Δ = 63° 45' 38.0" (RT)	Δ = 53° 56' 30.0" (LT)	Δ = 52° 28' 26.9" (LT)	Δ = 19° 53' 23.0" (LT)
D = 5° 24' 18.9"	D = 0° 11' 27.5"	D = 77° 37' 11.0"	D = 76° 23' 39.7"	D = 114° 35' 29.6"	D = 47° 44' 47.3"
L = 1,087.96'	L = 763.75'	L = 89.03'	L = 70.61'	L = 45.79'	L = 41.66'
T = 597.37'	T = 381.90'	T = 49.76'	T = 38.17'	T = 24.64'	T = 21.04'
R = 1,060.00'	R = 30,000.00'	R = 80.00'	R = 75.00'	R = 50.00'	R = 120.00'
SE = 0.06	SE = 0.02	SE = 0.06	SE = 0.02	SE = 0.02	SE = 0.02
RO = 195'	RO = 70'	RO = 90'	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH
DS = 55 MPH *	DS = 60 MPH	DS = 15 MPH			

* DESIGN EXCEPTION REQUIREDFOR MINIMUM HORIZONTAL CURVE RADIUS.

NAD 83/2011

MATCHLINE -L- STA. 49+00 SEE SHEET 16

MATCHLINE -L- STA. 62+00 SEE SHEET 18

-L- POC Sta. 49+94.61 =
-DR6- POT Sta. 12+97.51
BEGIN CONSTRUCTION
-DR6- POT Sta. 12+22.00
-DR6- PCC Sta. 11+54.31
-DR6- PT Sta. 12+00.10
-DR6- PC Sta. 10+83.70
-L- PRC Sta. 55+57.46
-DR6- POT Sta. 10+00.00
-Y3- POT Sta. 10+00.00=
-L- POC Sta. 51+54.19

BM3 ELEVATION = 1660.06
N 493170 E 480207
BL STATION 50+55.00 229 LEFT
BENCHTIE NAIL IN 36" HARDWOOD

-Y3A- PT Sta. 11+83.84
-Y3A- PC Sta. 10+54.81
-Y3A- POT Sta. 10+00.00=
-Y3- POT Sta. 10+81.18
-Y3A- POT Sta. 13+40.60
-Y3- POT Sta. 14+35.00
-Y3- POT Sta. 15+47.24
-DR7- PT Sta. 12+21.01
-DR7- PC Sta. 11+79.35
-Y3- POT Sta. 12+38.50=
-DR7- POT Sta. 10+00.00
-Y3- PT Sta. 13+17.43
END CONSTRUCTION
-Y3- POT Sta. 14+55.00
END CONSTRUCTION
-Y3A- POC Sta. 12+40.00

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

23 MICKEY PEACOCK, ET UX DB 1528 PG 678

24 ANTHONY D. CHIOFOLO DB 1226 PG 799

JERRY N. MCCLURE DB 606 PG 90

22 RAYMONDE T. BAUMEISTER DB 1453 PG 1054 PC F SLIDE 138

18 CHEROKEE WELL DRILLING & PUMP CO INC DB 1254 PG 275

20 NAOMI MARTIN DB 1353 PG 577

21 BELLVIEW COMMUNITY FIRE DEPT DB 515 PG 54

RUTH HUGHES DB 712 PG 18

HOLLY WALKER DB 1382 PG 990

NAOMI MARTIN DB 714 PG 154

US9/129 BLAIRSVILLE HWY 415' PAVED ROADWAY

SR 1583 LANCE RD 185' PAVED ROADWAY

SR 1556 MARTINS CREEK RD 175' PAVED ROADWAY

Frontier Communications of America Inc.

COBB CREEK

THE PROPERTY LINE CREEK

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-L-	-DR8-
PI Sta 59+39.36	PI Sta 75+17.07	PI Sta 12+56.85
△ = 1° 27' 31.2" (RT)	△ = 60° 30' 48.9" (RT)	△ = 56° 41' 15.7" (LT)
D = 0° 11' 27.5"	D = 2° 47' 41.7"	D = 47° 44' 47.3"
L = 763.75'	L = 2,165.13'	L = 118.73'
T = 381.90'	T = 1,195.85'	T = 64.73'
R = 30,000.00'	R = 2,050.00'	R = 120.00'
SE = 0.02	SE = 0.06	SE = 0.02
RO = 70'	RO = 210'	DS = 15 MPH
DS = 60 MPH	DS = 60 MPH	

PROJECT REFERENCE NO.	SHEET NO.
R-5861	18
R/W SHEET NO.	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE -L- STA. 62+00 SEE SHEET 17

MATCHLINE -L- STA. 75+00 SEE SHEET 19

-L- PCC Sta. 63+21.21

-DR8- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-DR8- PT Sta. 11+58.00
-DR8- PC Sta. 11+92.12

-DR8- PT Sta. 13+10.85
N 43°51'54.0" E

-DR8- POT Sta. 13+80.26=
-L- POC Sta. 71+41.54

BEGIN CULVERT
-L- Sta. 71+83.47

END CULVERT
-L- Sta. 72+04.04

26 RAYMONDE T. BAUMEISTER DB 1058 PG 481 PC F SLIDE 138

27 RAYMONDE T. BAUMEISTER DB 474 PG 82 PC F SLIDE 138

28 RICHARD C. MERCER DB 793 PG 140

29 DANIEL J. WEEKS DB 1248 PG 719

30 TIMOTHY J. BARNEY DB 1552 PG 202

31 HUBERT M. PICKLESIMER DB 1017 PG 311
MICHAEL DECOLGYLL DB 1497 PG 498

32 KYLIE J. SANDERS DB 1575 PG 600

33 JAMES TARASZEWSKI DB 1368 PG 684

22 RAYMONDE T. BAUMEISTER DB 1453 PG 1054 PC F SLIDE 138

38 TRICIA D. WISEMAN DB 998 PG 734 PC C SLIDE 36B

JERRY N. MCCLUR DB 606 PG 90

US19/129 BLAIRSVILLE HWY
26' PAVED ROADWAY

CULVI-A

CULVI-B

24" CMP

BM#4
BM4 ELEVATION = 1630.12
N 493887 E 479285
BL STATION 61+81.00 64 RIGHT
BENCHTIE NAIL IN 20" PINE

CULVERT #1
TWO BARRELS

	NORTH	EAST	ELEV.
CUL1	493988.22	479006.62	1618.40
CUL2	493995.76	478999.21	1618.39
CUL3	493996.70	478998.62	1618.33
CUL4	494003.99	478990.66	1618.43
CE1	493994.78	479000.15	1626.44
HW1	494000.61	478995.60	1628.15
CUL5	493990.38	479066.33	1618.45
CUL6	493998.30	479058.53	1618.40
CUL7	493999.27	479057.78	1618.37
CUL8	494005.81	479049.69	1618.54
CE2	493999.96	479055.77	1626.49
HW2	493997.29	479057.40	1628.27

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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PROJECT REFERENCE NO.	SHEET NO.
R-5861	19
R/W SHEET NO.	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-DR9-

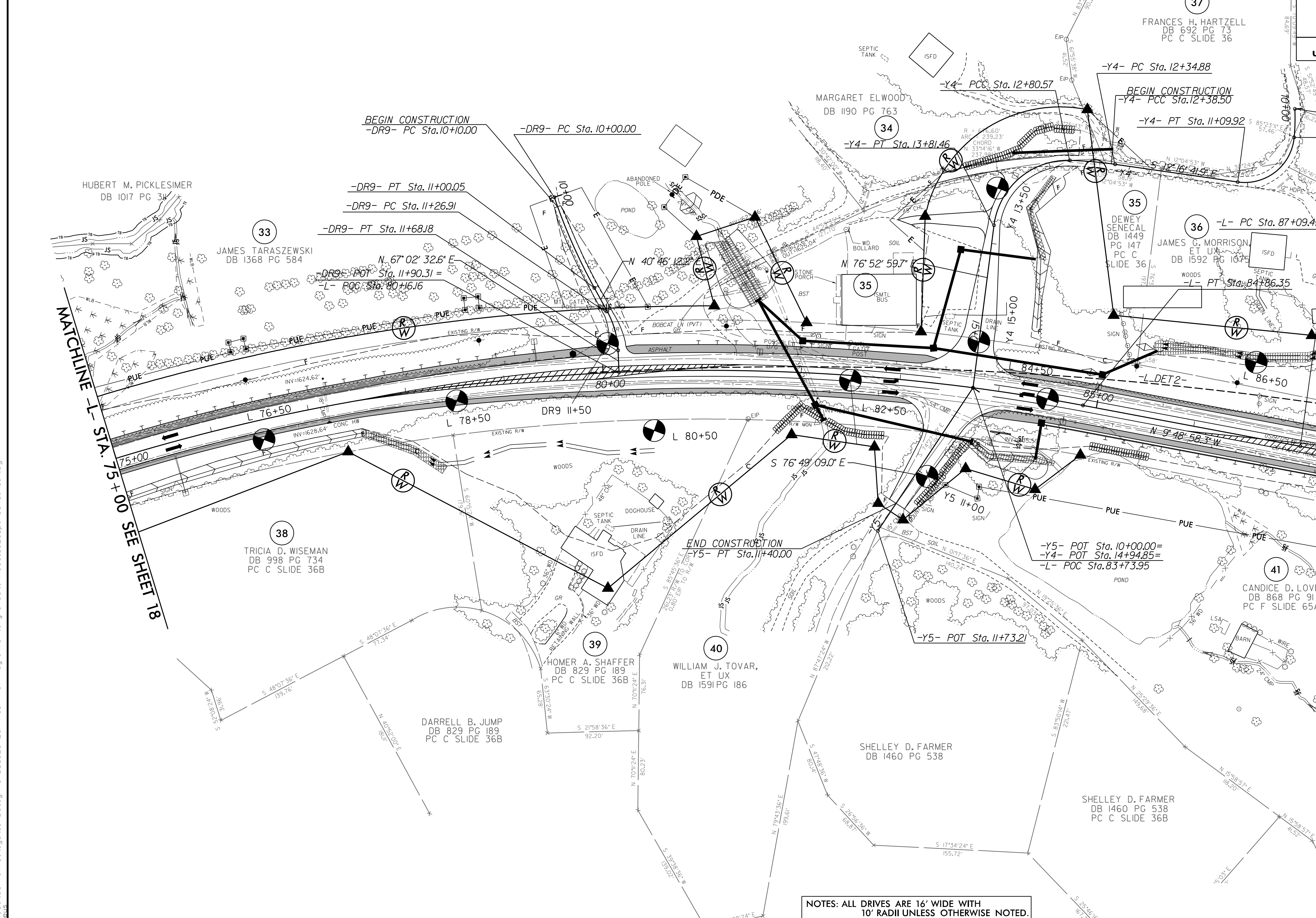
PI Sta 10+50.15	PI Sta 11+47.91
△ = 9° 53′ 01.0″ (LT)	△ = 26° 16′ 20.4″ (RT)
D = 9° 52′ 42.9″	D = 63° 39′ 43.1″
L = 100.05′	L = 41.27′
T = 50.15′	T = 21.00′
R = 580.00′	R = 90.00′
SE = 0.02	SE = 0.02
DS = 15 MPH	DS = 15 MPH

-L-

PI Sta 75+17.07	PI Sta 90+43.98
△ = 60° 30′ 48.9″ (RT)	△ = 2° 47′ 40.83″ (RT)
D = 2° 47′ 41.7″	D = 0° 25′ 03.9″
L = 2,165.13′	L = 668.97′
T = 1,195.85′	T = 334.55′
R = 2,050.00′	R = 13,715.00′
SE = 0.06	SE = 0.02
RO = 210′	RO = 70′
DS = 60 MPH	DS = 60 MPH

-Y4-

PI Sta 10+14.44	PI Sta 10+81.45	PI Sta 12+57.81	PI Sta 13+48.53
△ = 7° 51′ 52.2″ (RT)	△ = 92° 55′ 38.0″ (RT)	△ = 6° 28′ 50.8″ (LT)	△ = 84° 21′ 27.6″ (LT)
D = 27° 17′ 01.3″	D = 114° 35′ 29.6″	D = 14° 10′ 59.9″	D = 83° 37′ 14.3″
L = 28.82′	L = 81.09′	L = 45.69′	L = 100.88′
T = 14.44′	T = 52.62′	T = 22.93′	T = 67.96′
R = 210.00′	R = 50.00′	R = 405.00′	R = 75.00′
	SE = 0.02	SE = 0.02	SE = 0.02
	RO = 30′	RO = 30′	RO = 30′
	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH



NOTES: ALL DRIVES ARE 16′ WIDE WITH
10′ RADII UNLESS OTHERWISE NOTED.

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-L-			-DRIO-	-DRII-
PI Sta 90+43.98	PI Sta 95+111.13	PI Sta 97+69.79	PI Sta 11+73.39	PI Sta 11+23.42
△ = 2° 47' 40.83" (RT)	△ = 5° 4' 00.1" (LT)	△ = 4° 48' 49.0" (RT)	△ = 10° 15' 03.7" (LT)	△ = 14° 52' 01.7" (RT)
D = 0° 25' 03.9"	D = 1° 54' 35.49"	D = 1° 54' 35.49"	D = 14° 19' 26.2"	D = 28° 57' 18.1"
L = 668.97'	L = 265.30'	L = 252.04'	L = 71.57'	L = 51.35'
T = 334.55'	T = 132.73'	T = 126.09'	T = 35.88'	T = 26.09'
R = 13,715.00'	R = 3,000.00'	R = 3,000.00'	R = 400.00'	R = 200.00'
SE = 0.02	SE = 0.05	SE = 0.05	SE = 0.02	SE = 0.02
RO = 70'	RO = 140'	RO = 140'	DS = 15 MPH	DS = 15 MPH
DS = 60 MPH	DS = 60 MPH	DS = 60 MPH		

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
R-5861	20
R/W SHEET NO.	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BM5 ELEVATION = 1731.58
N 496343 E 478149
BL STATION 90+86.00 92 LEFT
BENCHTIE NAIL IN 30" OAK

-L- STA. 88+00 SEE SHEET 19

MATCHLINE -L- STA. 101+00 SEE SHEET 21

DOUGLAS R. HUTHWAITE
DB 1564 PG 117
PC C SLIDE 36

HOMER A. SHAFFER
DB 561 PG 14

PAUL R. PRICE
DB 1567 PG 96

PHILIP PERLOW
DB 1516 PG 148

KEITH A. LEGERE
DB 1582 PG 449

HOWARD J. BAUMEISTER
DB 781 PG 27

FRANCES H. HARTZELL
DB 692 PG 73
PC C SLIDE 36

HOMER A. SHAFFER JR.
DB 1449 PG 280
PC C SLIDE 36

MARGUERITE C PROSPERO O'BRYON
DB 1526 PG 199
PC C SLIDE 36

KATIE A. ERWIN
DB 1123 PG 357
PC C SLIDE 36B

JOSEPH J. GRUBER
DB 1200 PG 754
PC C SLIDE 36B

CANDICE D. LOVE
DB 868 PG 91
PC F SLIDE 65A

ROBERT TRUETT
DB 1188 PG 159
PC C SLIDE 36B

RAYMONDE T. BAUMEISTER
DB 781 PG 27

RAYMONDE T. BAUMEISTER
DB 466 PG 16

WILLIAM E. CAMPBELL, JR.
DB 1587 PG 154

-DRIO- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-DRIO- POT Sta. 91+10.00

-L- PRC Sta. 93+78.40

-DRIO- PT Sta. 12+09.08

-DRIO- PC Sta. 11+37.52

-L- POT Sta. 99+63.92=
-DRII- POT Sta. 10+00.00

-L- PT Sta. 98+95.74

-L- POT Sta. 96+17.62=
-DRIO- POT Sta. 12+39.84

-L- PRC Sta. 96+43.70

-DRII- PC Sta. 10+97.32

-DRII- PT Sta. 11+48.67

END CONSTRUCTION
-DRII- POT Sta. 11+50.00

-DRII- POT Sta. 12+30.36

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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2/26/2020
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PROJECT REFERENCE NO.	SHEET NO.
R-5861	21
R/W SHEET NO.	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-

PI Sta 112+20.71
Δ = 0° 38′ 52.86″ (LT)
D = 0° 15′ 37.57″
L = 248.82′
T = 124.41′
R = 22,000.00′
SE = NC
RO = 70′
DS = 60 MPH

-Y6-

PI Sta 13+60.37
Δ = 81° 00′ 06.6″ (LT)
D = 39° 30′ 51.6″
L = 204.99′
T = 123.85′
R = 145.00′
SE = 0.06
RO = 100′
DS = 25 MPH

PI Sta 16+47.26
Δ = 66° 29′ 36.7″ (RT)
D = 67° 24′ 24.5″
L = 98.65′
T = 55.72′
R = 85.00′
SE = 0.05
RO = 75′
DS = 20 MPH

-Y7-

PI Sta 10+57.52
Δ = 62° 23′ 11.4″ (RT)
D = 63° 30′ 49.4″
L = 98.23′
T = 57.52′
R = 95.00′
SE = 0.02
RO = 30′
DS = 20 MPH

PI Sta 12+54.78
Δ = 90° 57′ 44.5″ (LT)
D = 72° 03′ 49.5″
L = 126.22′
T = 86.44′
R = 85.00′
SE = 0.02
RO = 30′
DS = 20 MPH

PI Sta 13+35.18
Δ = 6° 35′ 41.2″ (RT)
D = 8° 08′ 02.0″
L = 81.08′
T = 40.62′
R = 705.00′

-DRI2-

PI Sta 11+30.31
Δ = 3° 00′ 57.2″ (RT)
D = 7° 09′ 59.9″
L = 42.08′
T = 21.06′
R = 800.00′
SE = 0.02
DS = 15 MPH

-DRI3-

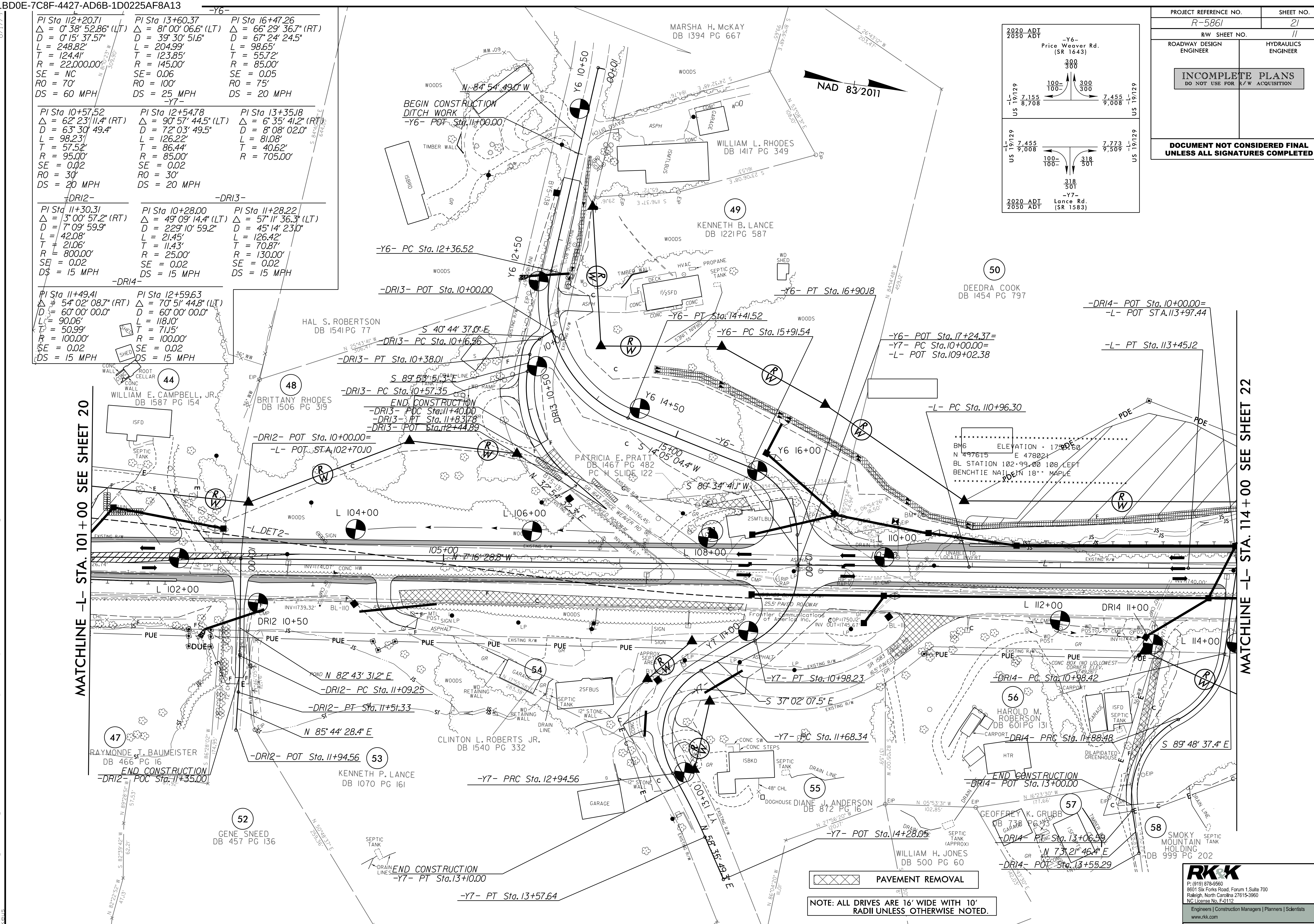
PI Sta 10+28.00
Δ = 49° 09′ 14.4″ (LT)
D = 229° 10′ 59.2″
L = 21.45′
T = 11.43′
R = 25.00′
SE = 0.02
DS = 15 MPH

PI Sta 11+28.22
Δ = 57° 11′ 36.3″ (LT)
D = 45° 14′ 23.0″
L = 126.42′
T = 70.87′
R = 130.00′
SE = 0.02
DS = 15 MPH

-DRI4-

PI Sta 11+49.41
Δ = 54° 02′ 08.7″ (RT)
D = 60° 00′ 00.0″
L = 90.06′
T = 50.99′
R = 100.00′
SE = 0.02
DS = 15 MPH

PI Sta 12+59.63
Δ = 70° 51′ 44.8″ (LT)
D = 60° 00′ 00.0″
L = 118.10′
T = 71.15′
R = 100.00′
SE = 0.02
DS = 15 MPH



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NOTE: ALL DRIVES ARE 16′ WIDE WITH 10′ RADII UNLESS OTHERWISE NOTED.

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-L-	-DRI5-		
PI Sta 127+30.02	PI Sta 11+99.43	PI Sta 12+96.26	PI Sta 13+52.13
△ = 23° 20′ 58.3″ (LT)	△ = 73° 27′ 47.3″ (RT)	△ = 52° 13′ 28.3″ (LT)	△ = 22° 25′ 31.3″ (RT)
D = 2° 41′ 46.6″	D = 60° 00′ 00.0″	D = 60° 00′ 00.0″	D = 67° 29′ 52.7″
L = 865.99′	L = 122.44′	L = 87.04′	L = 33.22′
T = 439.09′	T = 74.62′	T = 49.02′	T = 17.84′
R = 2,125.00′	R = 100.00′	R = 100.00′	R = 90.00′
SE = 0.06	SE = 0.02	SE = 0.02	SE = 0.02
RO = 165′	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH
DS = 60 MPH			

PROJECT REFERENCE NO.	SHEET NO.
R-5861	22
R/W SHEET NO.	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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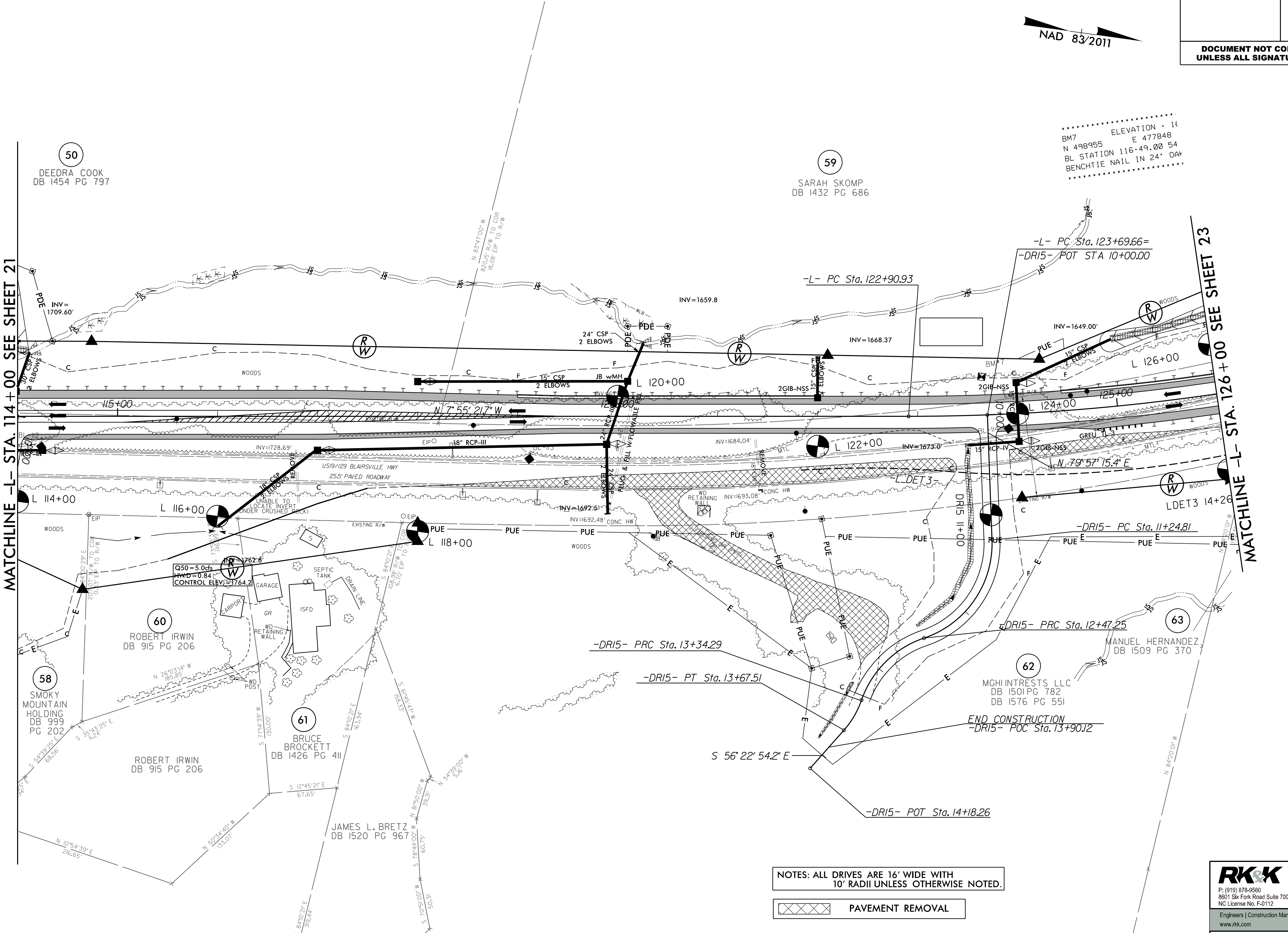

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-L-	-L-	-Y8-	-Y9-	-Y9-
PI Sta 127+30.02	PI Sta 135+82.23	PI Sta 10+55.66	PI Sta 11+22.32	PI Sta 14+31.88
△ = 23° 20' 58.3" (LT)	△ = 16° 58' 31.5" (LT)	△ = 24° 56' 46.9" (RT)	△ = 73° 19' 25.7" (RT)	△ = 22° 17' 24.8" (LT)
D = 2° 41' 46.6"	D = 2° 00' 37.4"	D = 35° 48' 35.5"	D = 45° 50' 11.8"	D = 20° 06' 13.6"
L = 865.99'	L = 844.39'	L = 69.66'	L = 159.97'	L = 110.88'
T = 439.09'	T = 425.31'	T = 35.39'	T = 93.04'	T = 56.15'
R = 2,125.00'	R = 2,850.00'	R = 160.00'	R = 125.00'	R = 285.00'
SE = 0.06	SE = 0.05	SE = 0.03	SE = 0.05	
DS = 60 MPH	DS = 60 MPH	RO = 45'	RO = 75'	
		DS = 15 MPH	DS = 15 MPH	

PROJECT REFERENCE NO.	SHEET NO.
R-5861	23
R/W SHEET NO.	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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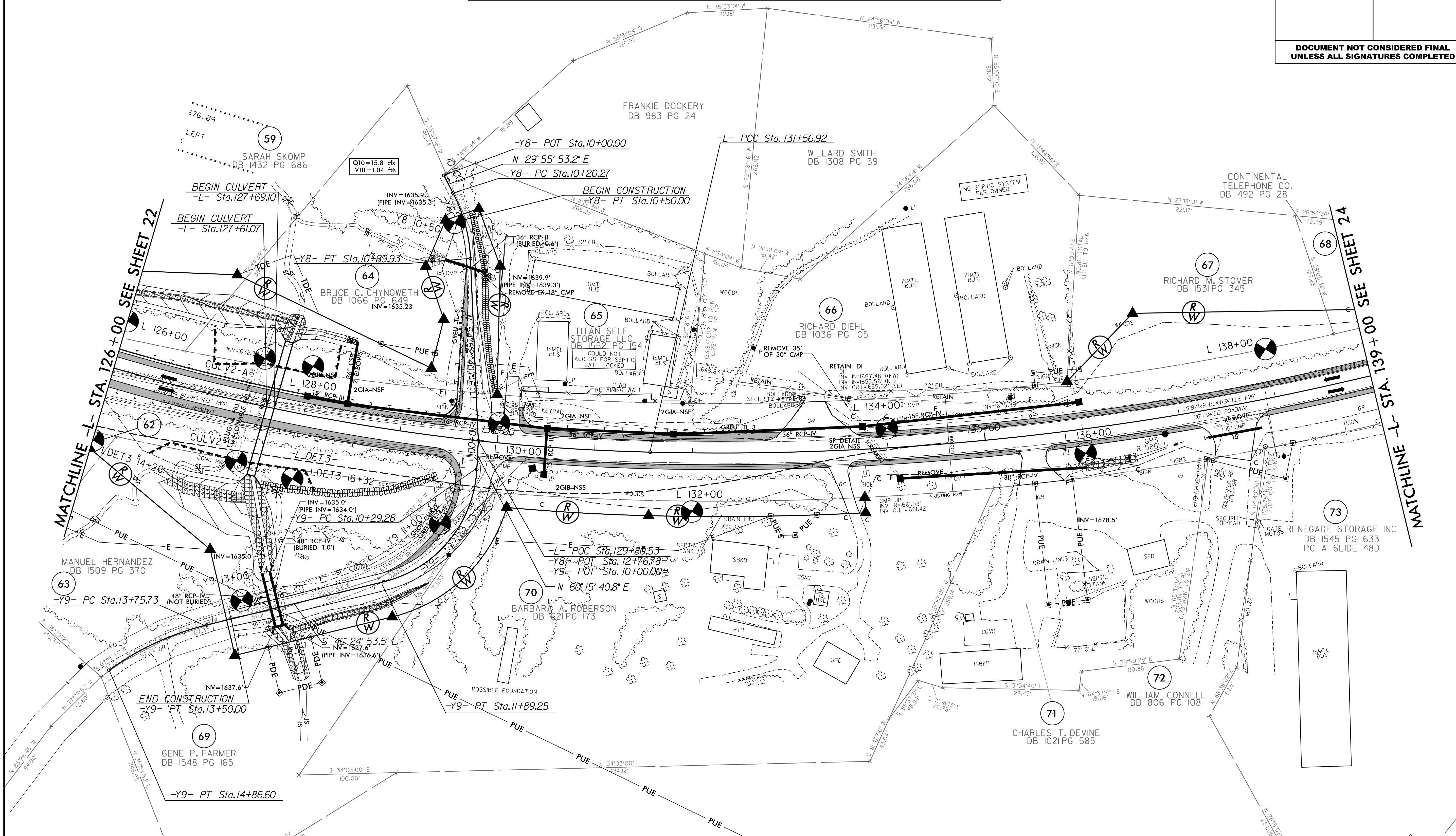

MATCHLINE -L- STA. 126+00 SEE SHEET 22
MATCHLINE -L- STA. 139+00 SEE SHEET 24
FRANKIE DOCKERY DB 983 PG 24
SARAH SKOMP DB 1432 PG 686
WILLARD SMITH DB 1308 PG 59
CONTINENTAL TELEPHONE CO. DB 492 PG 28
BRUCE C. CHYNOWETH DB 1066 PG 649
TITAN SELF STORAGE LLC DB 1552 PG 154
RICHARD DIEHL DB 1036 PG 105
RICHARD M. STOVER DB 1531 PG 345
MANUEL HERNANDEZ DB 1509 PG 370
BARBARA A. ROBERSON DB 621 PG 173
RENEGADE STORAGE INC DB 1545 PG 633 PC A SLIDE 48D
WILLIAM CONNELL DB 806 PG 108
CHARLES T. DEVINE DB 1021 PG 585
GENE P. FARMER DB 1548 PG 165
-Y8- POT Sta.10+00.00
N 29° 55' 53.2" E
-Y8- PC Sta.10+20.27
BEGIN CONSTRUCTION -Y8- PT Sta.10+50.00
-L- PCC Sta.131+56.92
BEGIN CULVERT -L- Sta.127+69.10
BEGIN CULVERT -L- Sta.127+61.07
-Y8- PT Sta.10+89.93
-Y9- PC Sta.10+29.28
-L- POC Sta.129+80.53
-Y8- POT Sta. 12+76.78
-Y9- POT Sta. 10+00.00
N 60° 15' 40.8" E
-Y9- PC Sta.13+75.73
S 46° 24' 53.5" E
END CONSTRUCTION -Y9- PT Sta.13+50.00
-Y9- PT Sta.11+89.25
-Y9- PT Sta.14+86.60
US19/129 BLAIRSVILLE HWY
Q10=15.8 cfs V10=1.04 ft/s
NO SEPTIC SYSTEM PER OWNER
COULD NOT ACCESS FOR SEPTIC GATE LOCKED
POSSIBLE FOUNDATION

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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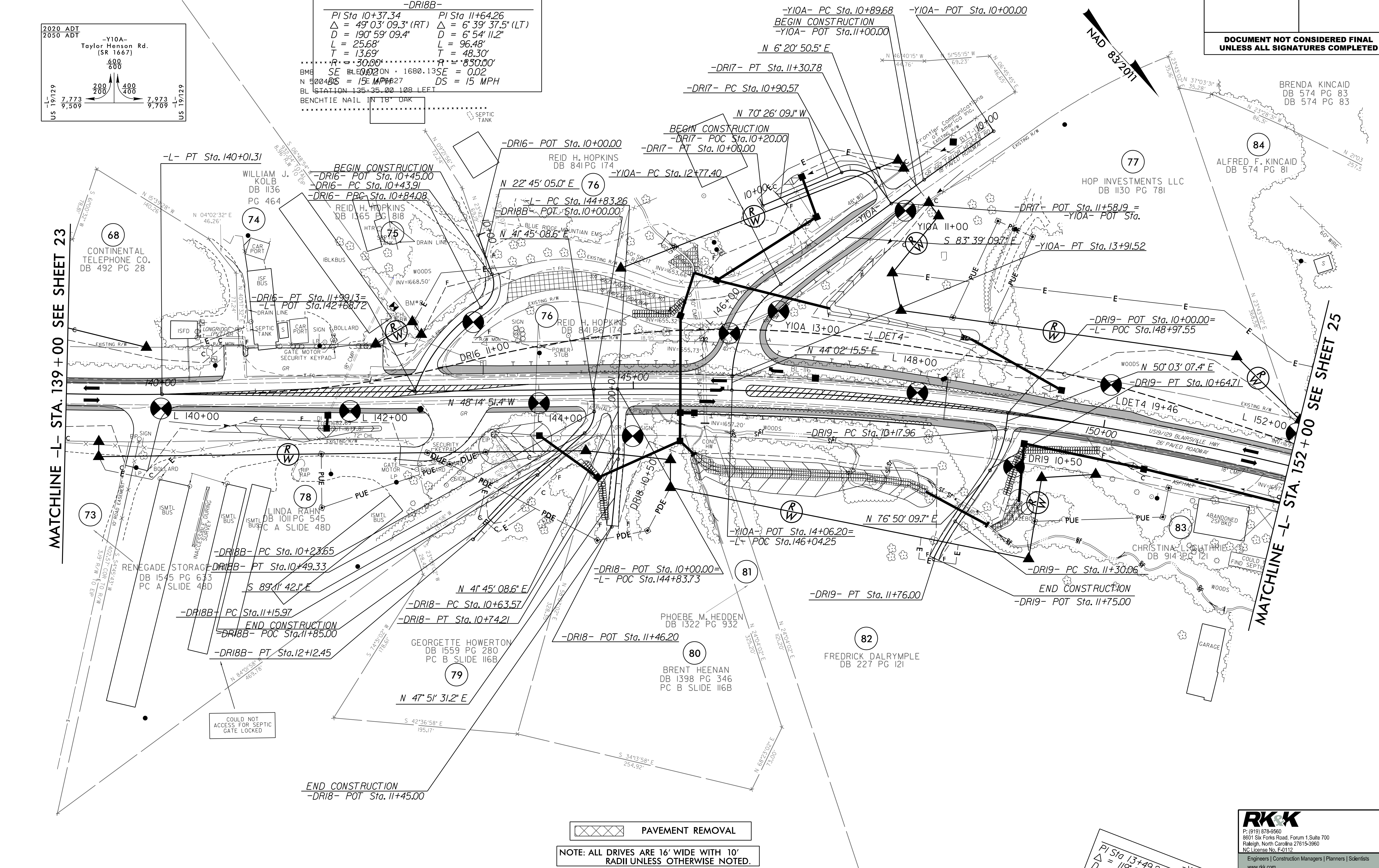
PROJECT REFERENCE NO.	SHEET NO.
R-5861	24
R/W SHEET NO.	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-	-L-	-Y10A-	-Y10A-	-DRI6-	-DRI6-	-DRI7-	-DRI8-	-DRI9-	-DRI9-
PI Sta 135+82.23	PI Sta 151+02.43	PI Sta 10+44.85	PI Sta 13+38.78	PI Sta 10+67.65	PI Sta 11+43.77	PI Sta 11+14.34	PI Sta 10+68.89	PI Sta 10+41.77	PI Sta 11+53.07
Δ = 16° 58' 31.5" (LT)	Δ = 24° 25' 52.3" (RT)	Δ = 2° 20' 08.2" (LT)	Δ = 52° 18' 34.8" (LT)	Δ = 76° 43' 07.2" (RT)	Δ = 37° 40' 05.5" (LT)	Δ = 76° 46' 59.6" (RT)	Δ = 6° 05' 49.0" (RT)	Δ = 26° 47' 02.3" (RT)	Δ = 8° 46' 24.5" (LT)
D = 2° 00' 37.4"	D = 2° 00' 12.1"	D = 2° 36' 15.7"	D = 45° 50' 11.8"	D = 190° 59' 09.4"	D = 32° 44' 25.6"	D = 190° 59' 09.4"	D = 57° 17' 44.8"	D = 57° 17' 44.8"	D = 19° 05' 54.9"
L = 844.39'	L = 1,219.52'	L = 89.68'	L = 114.12'	L = 40.17'	L = 115.05'	L = 40.20'	L = 10.64'	L = 46.75'	L = 45.94'
T = 425.31'	T = 619.17'	T = 44.85'	T = 61.39'	T = 23.74'	T = 59.69'	T = 23.77'	T = 5.33'	T = 23.81'	T = 23.01'
R = 2,850.00'	R = 2,860.00'	R = 2,200.00'	R = 125.00'	R = 30.00'	R = 175.00'	R = 30.00'	R = 100.00'	R = 100.00'	R = 300.00'
SE = 0.05	SE = 0.05		SE = 0.03	SE = 0.02	SE = 0.02	SE = 0.02	SE = 0.02	SE = 0.02	SE = 0.02
DS = 60 MPH	RO = 170'		RO = 45'	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH
	DS = 60 MPH		DS = 20 MPH						

-DRI8B-	-DRI8B-
PI Sta 10+37.34	PI Sta 11+64.26
Δ = 49° 03' 09.3" (RT)	Δ = 6° 39' 37.5" (LT)
D = 190° 59' 09.4"	D = 6° 54' 11.2"
L = 25.68'	L = 96.48'
T = 13.69'	T = 48.30'
R = 30.00'	R = 830.00'
SE = 0.02	SE = 0.02
DS = 15 MPH	DS = 15 MPH



2020 ADT
2050 ADT
-Y10A-
Taylor Henson Rd.
(SR 1667)
US 19/129
BM8 ELEVATION = 1680.13
BL STATION 135+35.00 108 LEFT
BENCHTIE NAIL IN 18" OAK
NAD 83/2011
MATCHLINE -L- STA. 139+00 SEE SHEET 23
MATCHLINE -L- STA. 152+00 SEE SHEET 25
-L- PT Sta. 140+01.31
BEGIN CONSTRUCTION
-DRI6- POT Sta. 10+45.00
-DRI6- PC Sta. 10+43.91
-DRI6- PRC Sta. 10+84.08
-DRI6- PT Sta. 11+99.13=
-L- POT Sta.142+68.72
-DRI6- POT Sta. 10+00.00
-DRI7- PT Sta. 10+00.00
-Y10A- PC Sta. 12+77.40
-L- PC Sta. 144+83.26
-DRI8B- POT Sta. 10+00.00
N 41° 45' 08.6" E
N 22° 45' 05.0" E
-Y10A- PC Sta. 10+89.68
-Y10A- POT Sta. 10+00.00
BEGIN CONSTRUCTION
-Y10A- POT Sta.11+00.00
N 6° 20' 50.5" E
-DRI7- PT Sta. 11+30.78
-DRI7- PC Sta. 10+90.57
N 70° 26' 09.1" W
BEGIN CONSTRUCTION
-DRI7- POC Sta.10+20.00
-DRI7- POT Sta. 11+58.19 =
-Y10A- POT Sta.
S 83° 39' 09.7" E
-Y10A- PT Sta. 13+91.52
-DRI9- POT Sta. 10+00.00=
-L- POC Sta.148+97.55
N 44° 02' 15.5" E
N 50° 03' 07.4" E
-DRI9- PT Sta. 10+64.71
N 48° 14' 51.4" W
-DRI9- PC Sta. 10+17.96
-Y10A- POT Sta. 14+06.20=
-L- POC Sta.146+04.25
N 76° 50' 09.7" E
-DRI9- PC Sta. 11+30.06
END CONSTRUCTION
-DRI9- POT Sta. 11+75.00
-DRI9- PT Sta. 11+76.00
-DRI8- POT Sta. 10+00.00=
-L- POC Sta.144+83.73
-DRI8- POT Sta. 11+46.20
-DRI8B- PC Sta. 10+23.65
-DRI8B- PT Sta.10+49.33
S 89° 11' 42.1" E
-DRI8B- PC Sta.11+15.97
END CONSTRUCTION
-DRI8B- POC Sta.11+85.00
-DRI8B- PT Sta.12+12.45
N 41° 45' 08.6" E
-DRI8- PC Sta. 10+63.57
-DRI8- PT Sta. 10+74.21
N 47° 51' 31.2" E
END CONSTRUCTION
-DRI8- POT Sta. 11+45.00
WILLIAM J. KOLB DB 1136 PG 464
REID H. HOPKINS DB 1365 PG 818
REID H. HOPKINS DB 841 PG 174
CONTINENTAL TELEPHONE CO. DB 492 PG 28
HOP INVESTMENTS LLC DB 1130 PG 781
BRENDA KINCAID DB 574 PG 83 DB 574 PG 83
ALFRED F. KINCAID DB 574 PG 81
LINDA RAHN DB 1011 PG 545 PC A SLIDE 48D
RENEGADE STORAGE DB 1545 PG 633 PC A SLIDE 48D
GEORGETTE HOWERTON DB 1559 PG 280 PC B SLIDE 116B
PHOEBE M. HEDDEN DB 1322 PG 932
BRENT HEENAN DB 1398 PG 346 PC B SLIDE 116B
FREDRICK DALRYMPLE DB 227 PG 121
CHRISTINA L. GUTHRIE DB 914 PG 121
COULD NOT ACCESS FOR SEPTIC GATE LOCKED
US19/129 BLAIRSVILLE HWY
26' PAVED ROADWAY

PAVEMENT REMOVAL

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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PROJECT REFERENCE NO.	SHEET NO.
R-5861	25
R/W SHEET NO.	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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NAD 83/2011

MATCHLINE -Y10B- STA. 16+00 SEE SHEET 31

MATCHLINE -L- STA. 152+00 SEE SHEET 24

MATCHLINE -L- STA. 166+00 SEE SHEET 26

BRENDA KINCAID
DB 574 PG 83

NICK GUTHRIE
DB 1020 PG 406

CHRISTINA GUTHRIE
DB 817 PG 70

BARBARA GUTHRIE
DB 361PG 206

ALFRED F. KINCAID
DB 574 PG 81

BARBARA GUTHRIE
DB 293 PG 71

BARBARA GUTHRIE
DB 1067 PG 264

MELISSA F. ANDERSON
DB 1413 PG 563

MICHAEL ADAMS
DB 852 PG 178

MELISSA F. MCHAN
DB 1115 PG 71

CHRISTINA L. GUTHRIE
DB 914 PG 121

FREDRICK DALRYMPLE
DB 227 PG 121

MICHAEL J. WILKINS
DB 1464 PG 282

MICHAEL L. HAMBY
DB 482 PG 63

REBEKA HEDDEN
DB 1471PG 702

CHARLES GREEN
DB 652 PG 192

PAUL BEASLEY
DB 94 PG 50

MITCHELL DALE & JARRED S. HAMPTON
DB 1417 PG 268

JARRED S. HAMPTON
DB 1417 PG 268

REBEKA HEDDEN
DB 1332 PG 133

-L- PT Sta. 157+02.78

-DR20- POT Sta.10+00.00

BEGIN CONSTRUCTION
-DR20- POT Sta.10+55.00

-DR21- POT Sta.10+00.00

-DR21- PC Sta. 10+38.78
N 29° 25' 50.3" E

-Y10B- PRC Sta.18+06.70

-L- PC Sta.163+05.66

-DR21- PT Sta. 11+14.83
N 5° 26' 59.3" E

-DR20- POT Sta. 11+10.35=
-L- POC Sta.152+36.84

-L- POC Sta.163+40.44=
-Y10B- POT Sta.19+50.89=
-Y11- POT Sta. 10+00.00
-DR21- POT Sta. 11+25.84=
-L- POT Sta.160+45.92

-Y11- PC Sta. 13+36.18

-Y11A- POT Sta. 9+99.68 =
-Y11- POC Sta. 13+81.55
END CONSTRUCTION
-Y11- PT Sta. 14+43.52
-Y11- PT Sta. 15+24.23

-Y11A- PC Sta.11+09.65
N 59° 02' 17.1" W

-Y11A- PC Sta.10+33.25
-Y11A- PC Sta.10+10.28
N 6° 23' 20.5" W

ELEVATION = 1764.8
N 502205 E 475639
BL STATION 156+53.00 112 LEFT
BENCHTIE NAIL IN 30" POPLAR

BM=9

-Y10B-
Taylor Henson Rd.
(SR 1667)
200/200
100/100
200/200
7,973 / 9,709
9,191 / 11,110
US 19129
1,200/1,400
1,418/1,601
2020 ADT
2050 ADT
-Y11-
Hedden Rd.
(SR 1580)

-L-

PI Sta 151+02.43	PI Sta 167+07.22
Δ = 24° 25' 52.3" (RT)	Δ = 19° 33' 25.8" (LT)
D = 2° 00' 12.1"	D = 2° 27' 32.6"
L = 1,219.52'	L = 795.32
T = 619.17'	T = 401.56'
R = 2,860.00'	R = 2,330.00'
SE = 0.05	SE = 0.05
RO = 170'	RO = 235'
DS = 60 MPH	DS = 60 MPH

-Y10B-

PI Sta 13+49.20	PI Sta 16+18.14
Δ = 119° 26' 44.2" (RT)	Δ = 32° 08' 30.2" (LT)
D = 67° 24' 24.5"	D = 10° 42' 34.2"
L = 177.20'	L = 300.12'
T = 145.59'	T = 154.13'
R = 85'	R = 535'
SE = 0.06	SE = 0.06
RO = 90'	RO = 120'
DS = 20 MPH	DS = 40 MPH

-Y11-

PI Sta 13+95.68	PI Sta 14+83.88
Δ = 61° 29' 55.2" (RT)	Δ = 2° 54' 30.2" (RT)
D = 57° 17' 44.8"	D = 3° 36' 12.6"
L = 107.34'	L = 80.71'
T = 59.49'	T = 40.36'
R = 100.00'	R = 1,590.00'
SE = 0.06	SE = 0.06
RO = 90'	RO = 90'
DS = 20 MPH	DS = 20 MPH

-Y11A-

PI Sta 10+22.65	PI Sta 12+69.51
Δ = 52° 38' 56.6" (LT)	Δ = 6° 29' 21.2" (LT)
D = 229° 10' 59.2"	D = 2° 01' 54.4"
L = 22.97'	L = 319.39'
T = 12.37'	T = 159.87'
R = 25.00'	R = 2,820.00'
SE = 0.06	SE = 0.02
RO = 60'	DS = 30 MPH
DS <15 MPH	

-DR21-

PI Sta 10+77.69
Δ = 22° 01' 09.0" (RT)
D = 28° 57' 18.1"
L = 76.05'
T = 38.91'
R = 200.00'
SE = 0.02
DS = 15 MPH

PAVEMENT REMOVAL

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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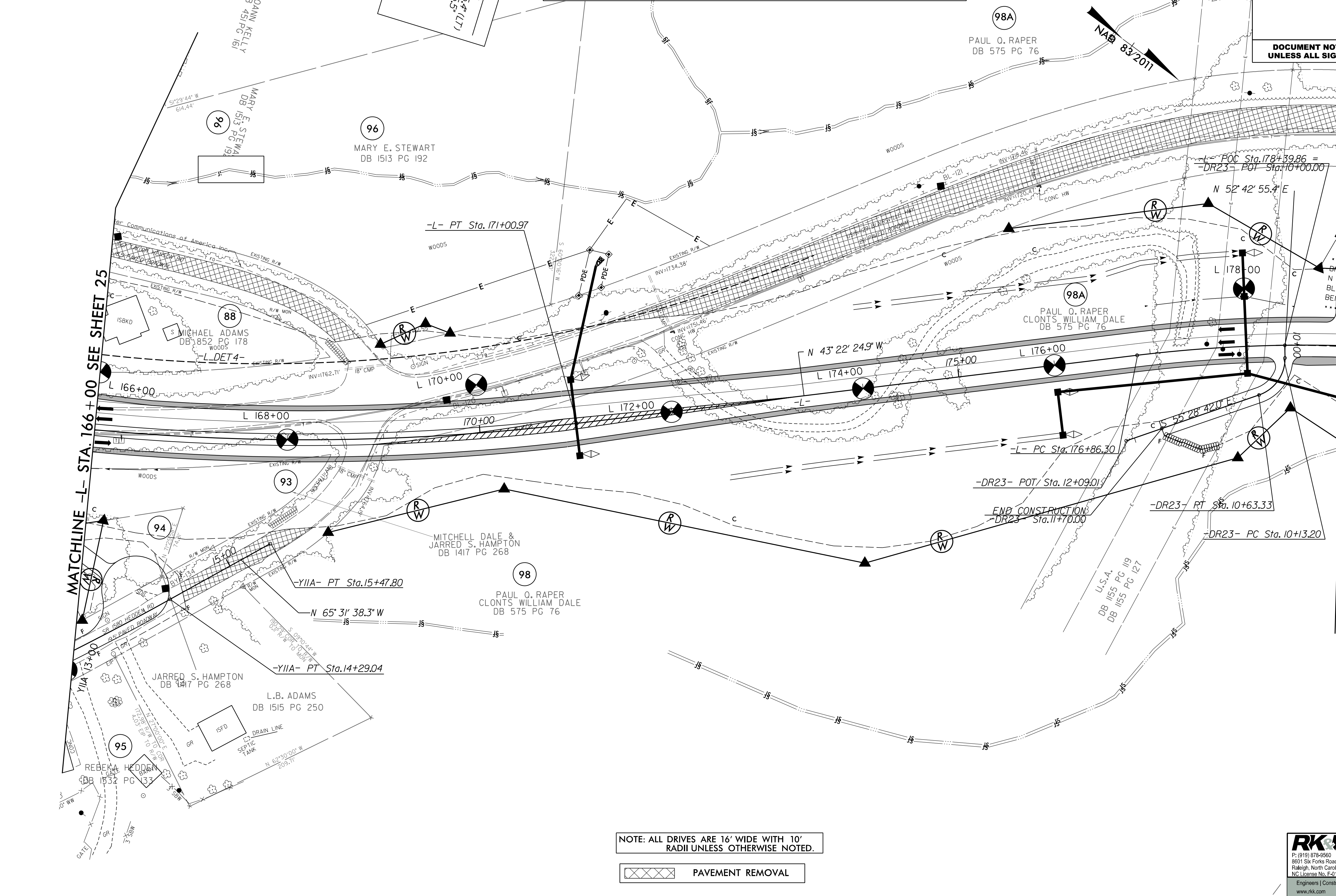
PROJECT REFERENCE NO.	SHEET NO.
R-5861	26
R/W SHEET NO.	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-	-L-	-Y11A-	-DR23-
PI Sta 167+07.22	PI Sta 183+05.70	PI Sta 12+69.51	PI Sta 10+42.16
Δ = 19° 33' 25.8" (LT)	Δ = 46° 24' 17.4" (RT)	Δ = 6° 29' 21.2" (LT)	Δ = 71° 48' 22.7" (RT)
D = 2° 27' 32.6"	D = 3° 57' 54.4"	D = 2° 01' 54.4"	D = 143° 14' 22.0"
L = 795.32'	L = 1,170.33'	L = 319.39'	L = 50.13'
T = 401.56'	T = 619.40'	T = 159.87'	T = 28.96'
R = 2,330.00'	R = 1,445.00'	R = 2,820.00'	R = 40.00'
SE = 0.05	SE = 0.06	SE = 0.02	SE = NC
RO = 235'	RO = 240'	DS = 30 MPH	DS = 15 MPH
DS = 60 MPH	DS = 60 MPH		

-Y13-
PI Sta 11+71.51
Δ = 82° 21' 35.4" (LT)
D = 35° 48' 35.5"
L = 229.97'
T = 159.91'
R = 160.00'
SE = 0.06
RO = 90'
DS = 20 MPH



NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

PAVEMENT REMOVAL

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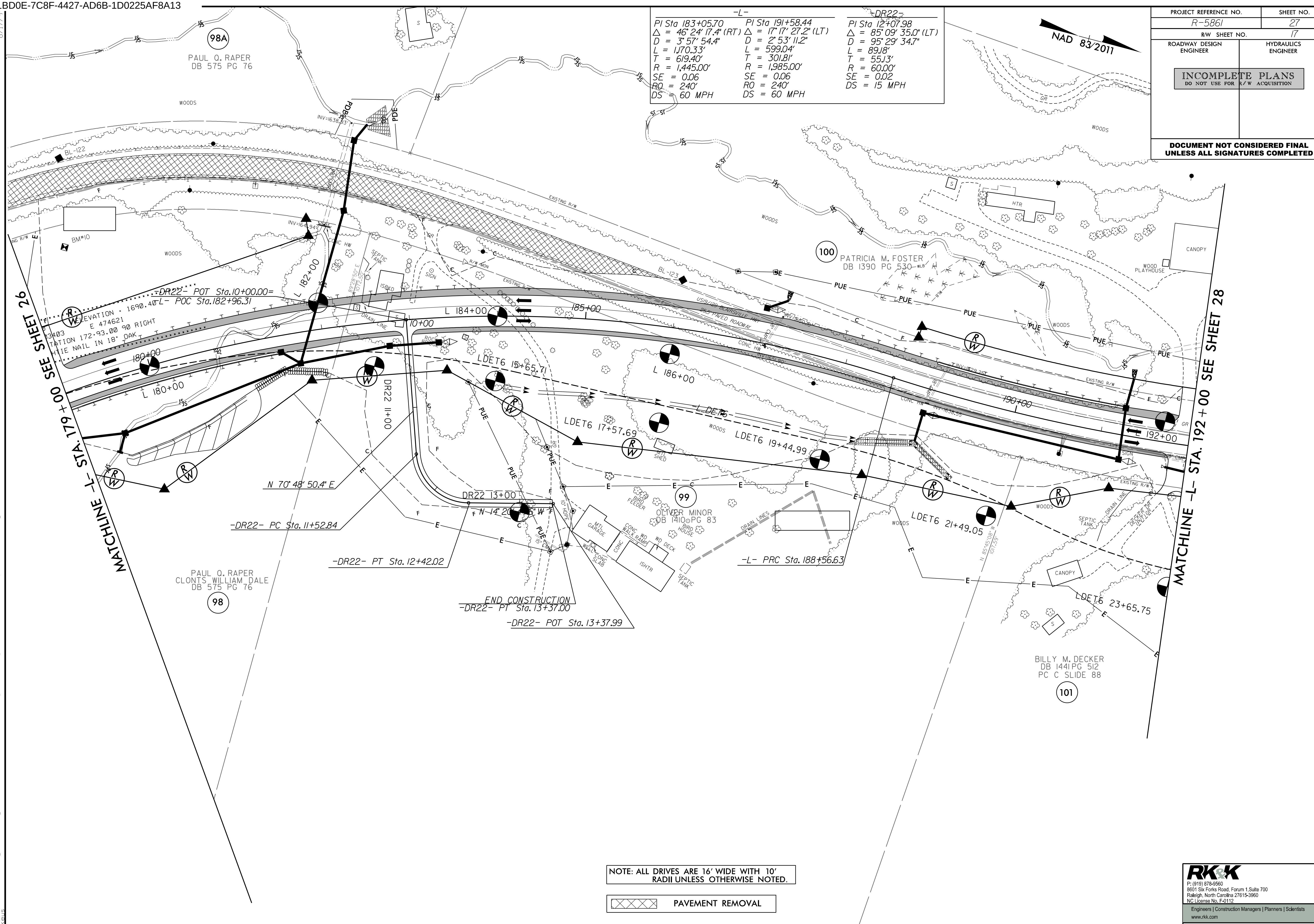
PROJECT REFERENCE NO.	SHEET NO.
R-5861	27
R/W SHEET NO.	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-		-DR22-
PI Sta 183+05.70	PI Sta 191+58.44	PI Sta 12+07.98
△ = 46° 24' 17.4" (RT)	△ = 17° 17' 27.2" (LT)	△ = 85° 09' 35.0" (LT)
D = 3° 57' 54.4"	D = 2° 53' 11.2"	D = 95° 29' 34.7"
L = 1,170.33'	L = 599.04'	L = 89.18'
T = 619.40'	T = 301.81'	T = 55.13'
R = 1,445.00'	R = 1,985.00'	R = 60.00'
SE = 0.06	SE = 0.06	SE = 0.02
RO = 240'	RO = 240'	DS = 15 MPH
DS = 60 MPH	DS = 60 MPH	



NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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-L-		-DR24-
PI Sta 191+58.44	PI Sta 198+64.95	PI Sta 10+47.18
△ = 17° 17' 27.2" (LT)	△ = 24° 11' 21.0" (LT)	△ = 61° 13' 52.0" (RT)
D = 2° 53' 11.2"	D = 2° 59' 59.2"	D = 143° 14' 22.0"
L = 599.04'	L = 806.36'	L = 42.75'
T = 301.81'	T = 409.28'	T = 23.67'
R = 1,985.00'	R = 1,910.00'	R = 40.00'
SE = 0.06	SE = 0.03	SE = NC
RO = 240'	RO = 40'/65'	DS = 15 MPH
DS = 60 MPH	DS = 60 MPH/40 MPH	

PROJECT REFERENCE NO.	SHEET NO.
R-5861	28
R/W SHEET NO.	18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

MATCHLINE -L- STA. 192+00 SEE SHEET 27

MATCHLINE -L- STA. 205+00 SEE SHEET 29

100 PATRICIA M. FOSTER DB 1390 PG 530

101 BILLY M. DECKER DB 1441 PG 512 PC C SLIDE 88

102 TRACY POSTELL DB 842 PG 29

103 JOHN T. MCGUIRE DB 563 PG 116

104 TOWN OF MURPHY

105 JERRY DECKER TRUSTEE DB 1441 PG 510

LEWIS E. FOSTER DB 656 PG 215

LEWIS E. FOSTER DB 563 PG 114

WADE W. DECKER DB 1387 PG 954

-L- PCC Sta. 194+55.67

-DR24- PC Sta. 10+23.51

-L- POC Sta. 196+19.06 = -DR24- POT Sta. 10+00.00

-DR24- POT Sta. 11+39.06

END CONSTRUCTION -DR24- POT Sta. 11+32.00

-DR24- PT Sta. 10+66.26

-L- PT Sta. 202+62.03

DO NOT DISTURB LIFT STATION

ELEVATION = 1631.69 E 474597 186.96.00 68 RIGHT IL IN 18" OAK

US19/129 BLAIRSVILLE HWY 30' 26' PAVED ROADWAY

BLUE RIDGE MOUNTIAN EMS

Frontier Communications of America Inc.

UNKNOWN

UNABLE TO GET INVERT (SLATE TOP ON STRUCTURE

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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2/26/2020
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FLEWIS

PROJECT REFERENCE NO.	SHEET NO.
R-5861	29
R/W SHEET NO.	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/2011

Driveway

-Y12- US 64/74

2,227 / 2,501		
900 / 1,000		809 / 900
18,491 / 22,420		21,764 / 26,423
2,655 / 3,203		6,027 / 7,306
	9,191 / 11,110	

2020 ADT / 2050 ADT

-L- US 19/129

-Y12-
PI Sta 15+00.57
Δ = 9° 51' 51.39" (LT)
D = 0° 59' 16.33"
L = 998.84'
T = 500.51'
R = 5,800.00'
DS = 60 MPH
SE = EXIST

NANTAHALA BANK & TRUST COMPANY DB 1402 PG 613

JAMES J. HARPER DB 720 PG 196

DANIEL M. EICHENBAUM DB 488 PG 128

BIMBO BAKERIES USA INC. DB 1485 PG 520

SPIRIT JO SMF SPE LLC DB 1483 PG 69

JOAN POSEY DB 617 PG 168

CHARLES W. LANEY DB 582 PG 121

MEP CAPITAL GROUP LLC DB 1485 PG 596

-Y12- PT Sta. 19+98.55

BEGIN CONSTRUCTION -Y12- PC Sta. 18+66.98

-L- POT Sta. 209+88.82=
-Y12- POT Sta. 26+07.89

US 64/74 29' PAVED ROADWAY

US 64/74 42' PAVED ROADWAY

US 64/74 34' PAVED ROADWAY

US 64/74 30.5' PAVED ROADWAY

Balsamwest Fibernet LLC

TOWN OF MURPHY

CHARLES BRYANT NO DEED FOUND

LARRY FOSTER DB 484 PG 196

LEWIS E. FOSTER DB 656 PG 215

JOHNNY L. FOSTER DB 563 PG 118

RANGER MARKET LLC DB 885 PG 63

APPALACHIAN RENTALS LLC DB 1399 PG 762 PC G SLIDE 174

PASCHAL J. HUGHES TRUSTEE DB 1182 PG 502 DB 604 PG 98 PC G SLIDE 174

PASCHAL J. HUGHES TRUSTEE DB 1182 PG 502

END PROJECT R-5861 -L- STA. 209+46.82

BM12
N 5066160
E 473783
ELEVATION - 1626.29
BL STATION 203-33.00 9 RIGHT
BONNET BOLT OF FIRE HYDRANT

MATCHLINE -Y12- STA. 31+00 SEE SHEET 30

MATCHLINE -L- STA. 205+00 SEE SHEET 28

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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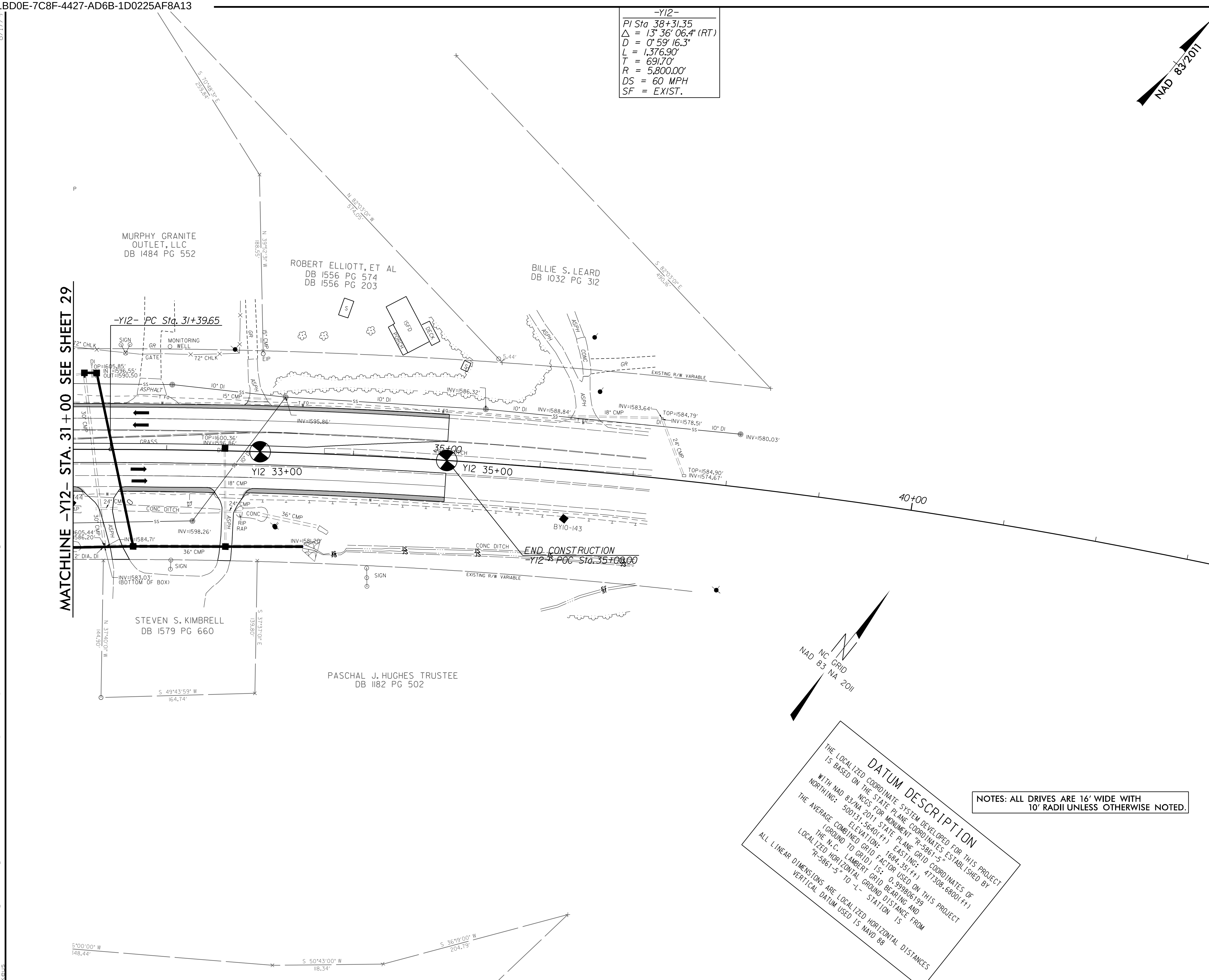
PROJECT REFERENCE NO.	SHEET NO.
R-5861	30
R/W SHEET NO.	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "R-5861-5"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 500131.5640(ft) EASTING: 477308.6800(ft)
ELEVATION: 1684.35(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99980699
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R-5861-5" TO -L- STATION IS
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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-Y10B-				-Y13-
PI Sta 10+39.67	PI Sta 11+02.29	PI Sta 13+52.77	PI Sta 18+30.42	PI Sta 11+71.51
△ = 19° 21' 25.9" (LT)	△ = 3° 02' 24.0" (LT)	△ = 172° 38' 45.0" (RT)	△ = 137° 13' 19.0" (LT)	△ = 82° 21' 35.4" (LT)
D = 49° 14' 55.1"	D = 3° 28' 22.8"	D = 91° 10' 09.8"	D = 38° 11' 49.9"	D = 35° 48' 35.5"
L = 39.31'	L = 87.53'	L = 189.37'	L = 359.25'	L = 229.99'
T = 20.47'	T = 43.78'	T = 1,089.23'	T = 382.97'	T = 139.97'
R = 120.00'	R = 1,650.00'	R = 70.00'	R = 150.00'	R = 160.00'
		SE = 0.06	SE = 0.06	SE = 0.06
		R0 = 120'	R0 = 100'	R0 = 90'
		DS = 15 MPH	DS = 25 MPH	DS = 20 MPH

PROJECT REFERENCE NO.	SHEET NO.
R-5861	31
R/W SHEET NO.	21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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NAD 83/2011

-Y13- POT Sta.12+79.96
S 80° 36' 36.9" W
END CONSTRUCTION
-Y13- POT Sta.12+75.00
-Y13- PC Sta.12+61.53
-Y13- PC Sta. 10+31.54
N 17° 01' 47.7" W
-Y13- POT Sta. 10+00.00 =+
-Y10B- POC Sta.13+35.00
-Y10B- PRC Sta. 14+47.45
-Y10B- PC Sta. 12+58.08
N 27° 32' 01.6" W
BEGIN CONSTRUCTION
-Y10B- PT Sta.11+58.00
-Y10B- PT Sta. 11+46.04
-Y10B- PCC Sta. 10+58.51
-Y10B- PC Sta. 10+19.20
-Y10B- POT Sta. 10+00.00

97 JOANN KELLY DB 451 PG 161
96 MARY E. STEWA DB 1513 PG 19
107 JOHN H. BEAVERS NO DEED FOUND
106 CAROLE A. LEE 1152 PG 22
88 MICHAEL ADAMS DB 852 PG 178
87 CLAUDE W. BEAVER DB 1560 PG 625
MELISSA F. ANDERSON DB 1413 PG 563

MATCHLINE -Y10B- STA. 16+00 SEE SHEET 25

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

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REVISIONS

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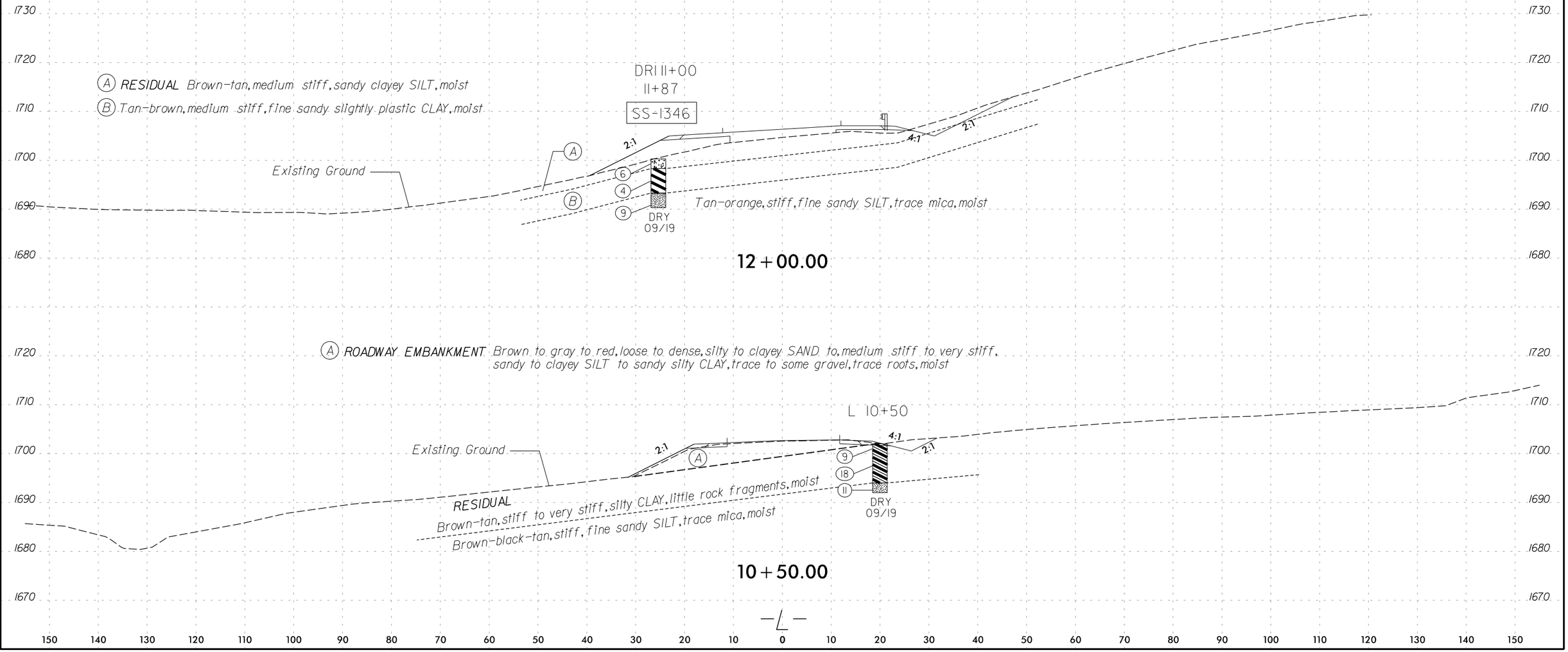
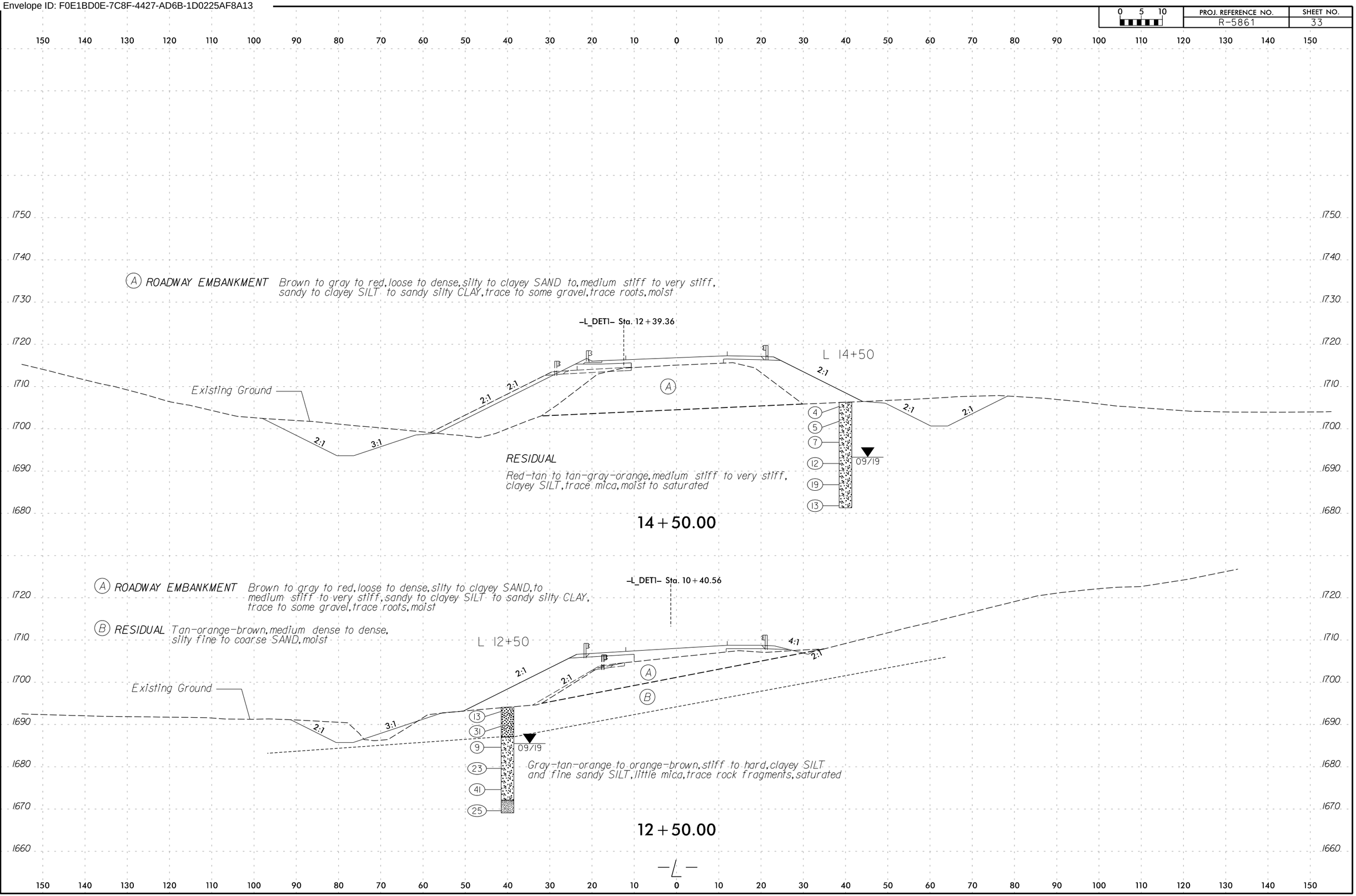
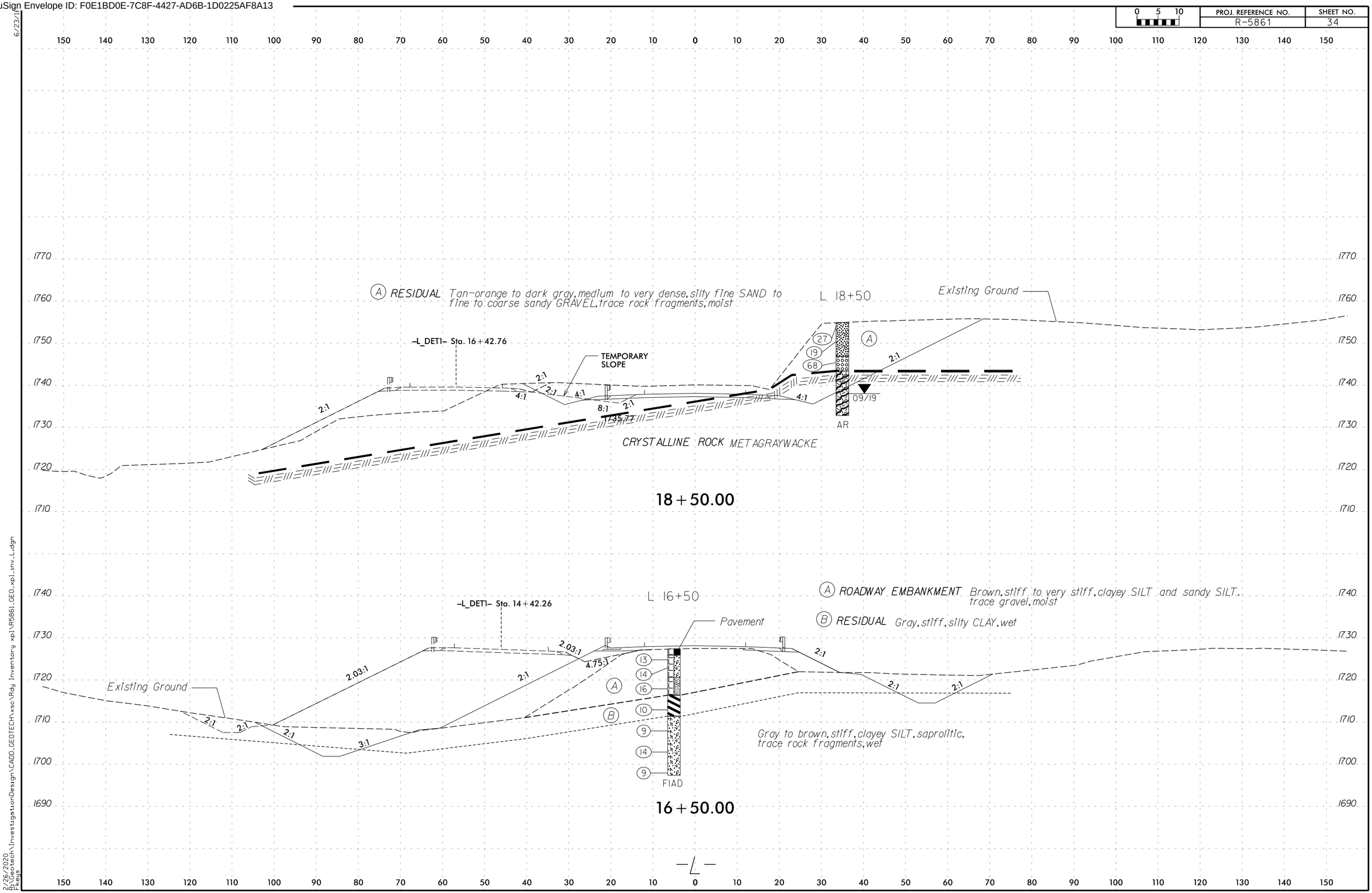
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1346	11+87	25' LT	3.5-5.0	A-7-6 (7)	41	12	8	37	19	36	98	94	62.3	24.3	-



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	33





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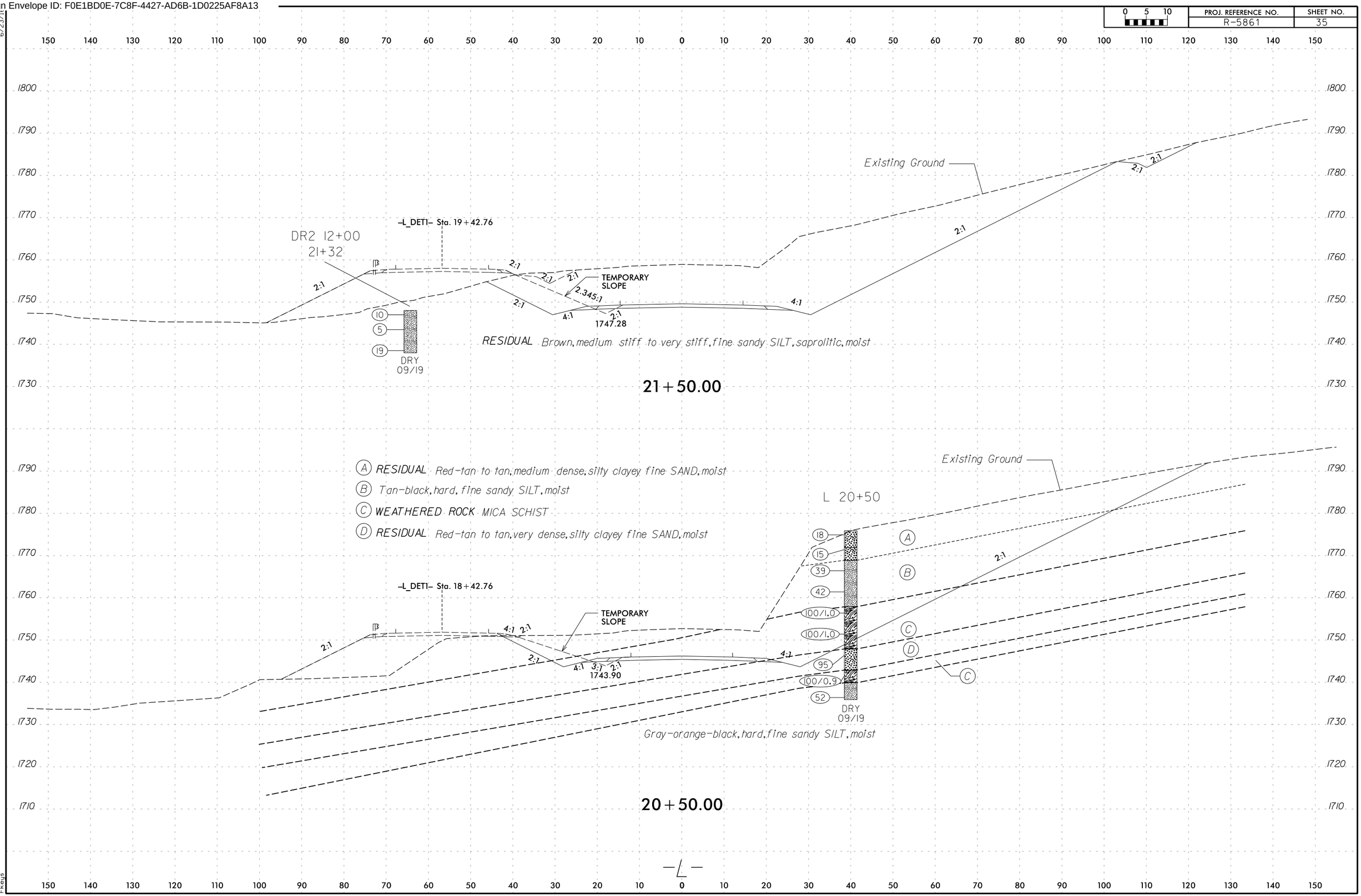
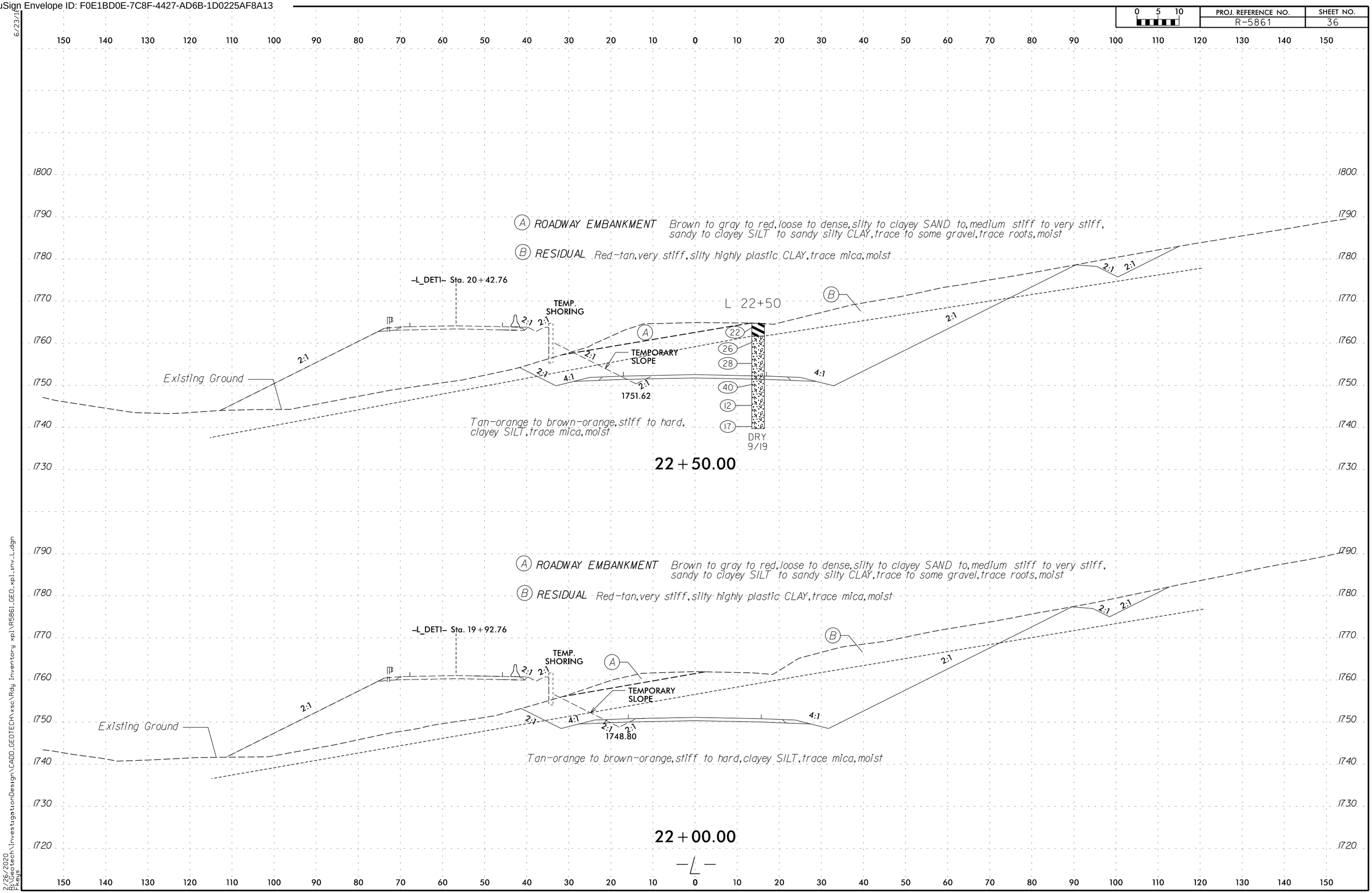
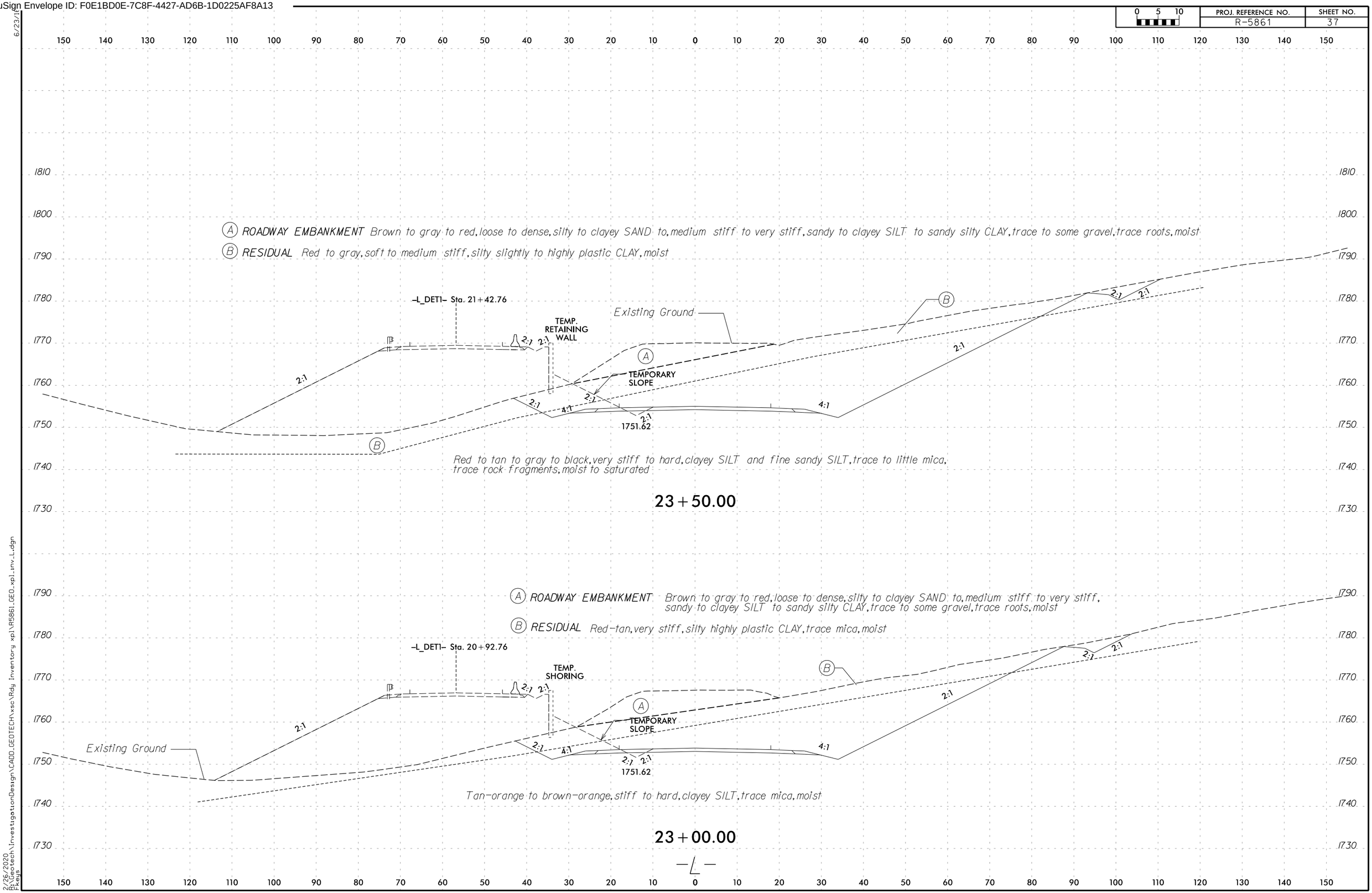
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	35

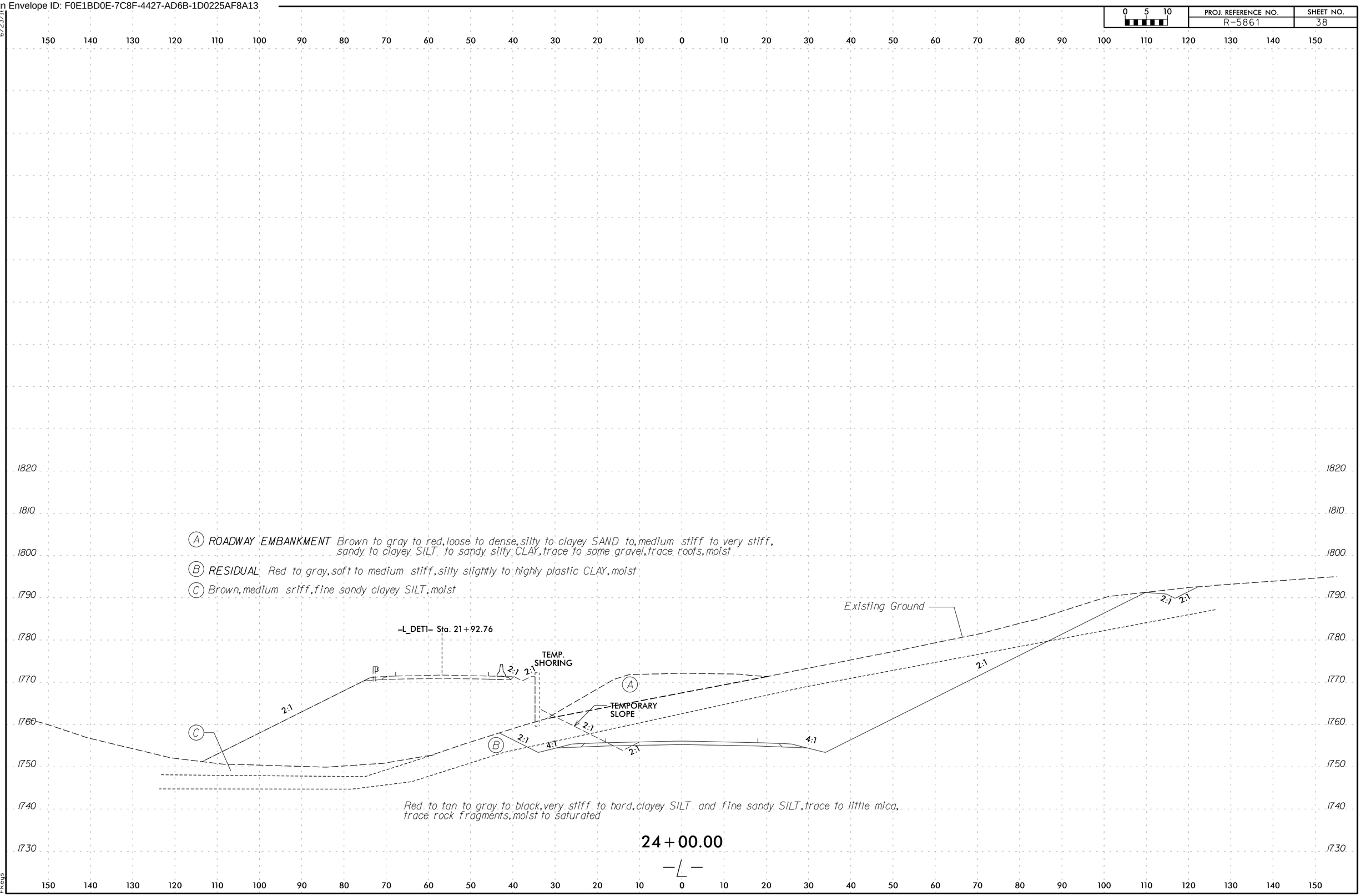




0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	37

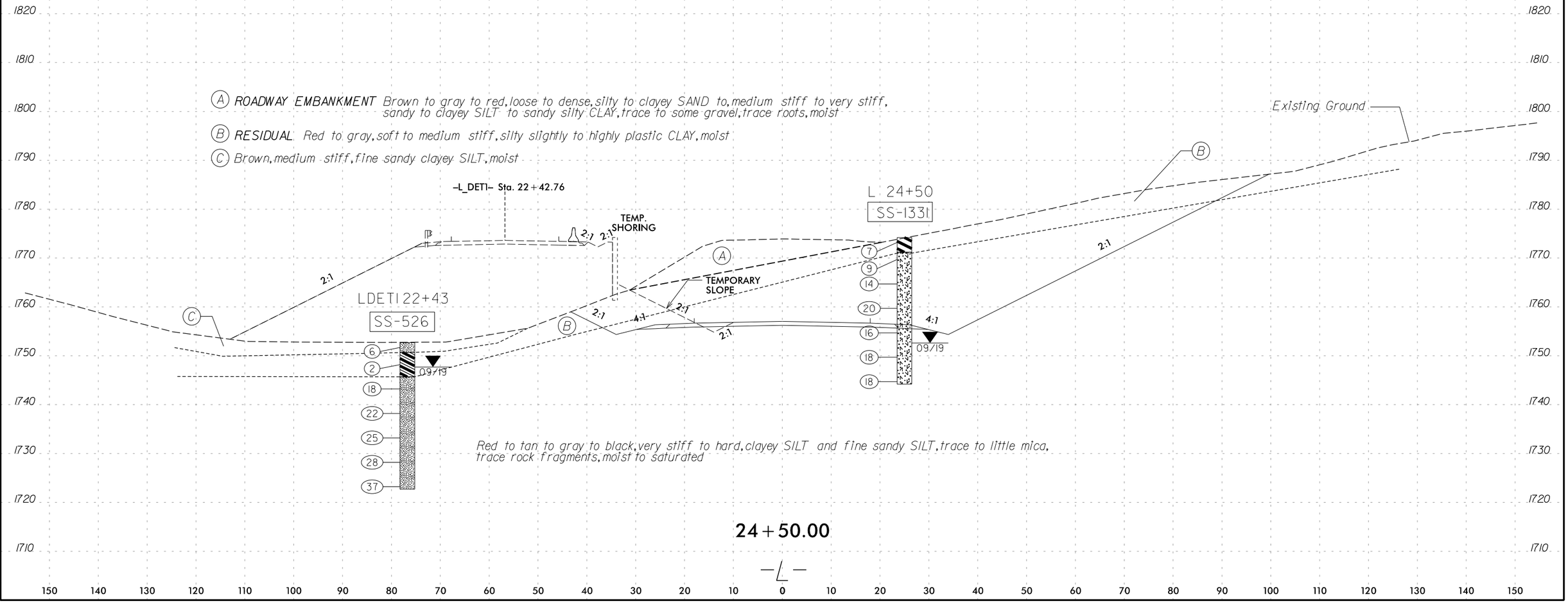


0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	38



SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1331	24+50	25' RT	0.0-1.5	A-7-5 (26)	64	30	3	26	16	55	100	99	77.9	33	-
SS-526	24+50	77' LT	3.5-5.0	A-6 (5)	35	11	7	42	17	34	100	98	61.2	29.2	-



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	40

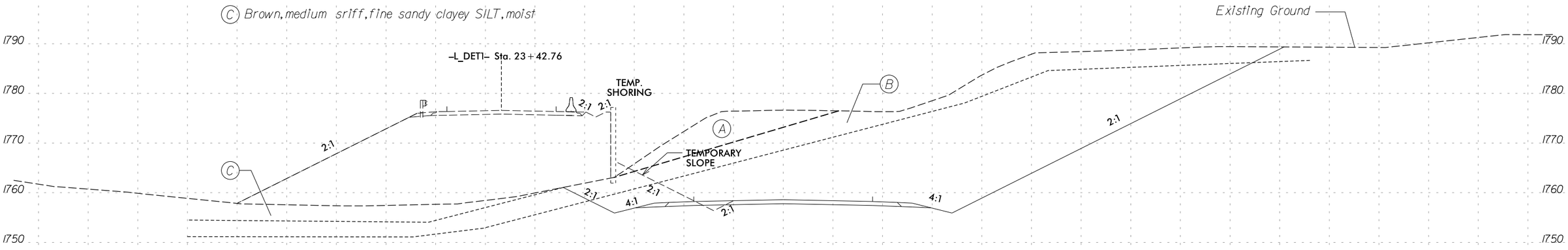
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1820 1810 1800 1790 1780 1770 1760 1750 1740

Ⓐ *ROADWAY EMBANKMENT* *Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist*

Ⓑ *RESIDUAL* *Red to gray, soft to medium stiff, silty slightly to highly plastic CLAY, moist*

Ⓒ *Brown, medium sriff, fine sandy clayey SILT, moist*



Red to tan to gray to black, very stiff to hard, clayey SILT and fine sandy SILT, trace to little mica, trace rock fragments, moist to saturated

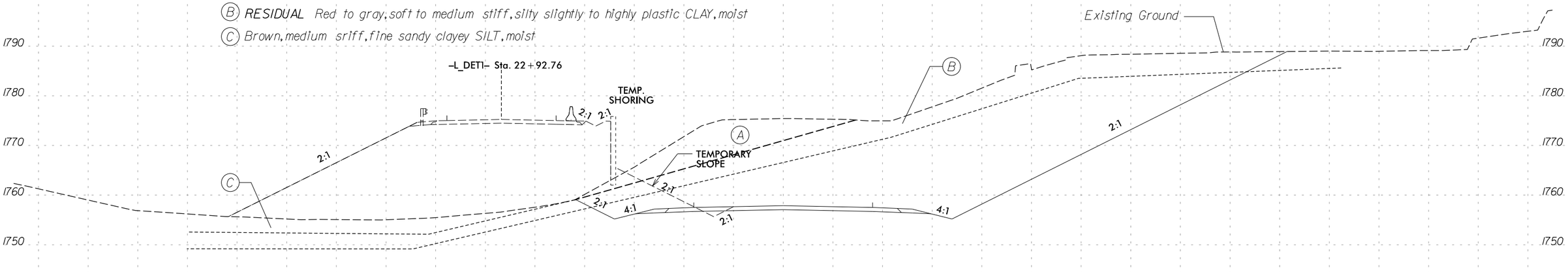
25+50.00

1810 1800 1790 1780 1770 1760 1750 1740 1730

Ⓐ *ROADWAY EMBANKMENT* *Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist*

Ⓑ *RESIDUAL* *Red to gray, soft to medium stiff, silty slightly to highly plastic CLAY, moist*

Ⓒ *Brown, medium sriff, fine sandy clayey SILT, moist*



Red to tan to gray to black, very stiff to hard, clayey SILT and fine sandy SILT, trace to little mica, trace rock fragments, moist to saturated

25+00.00

—L—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

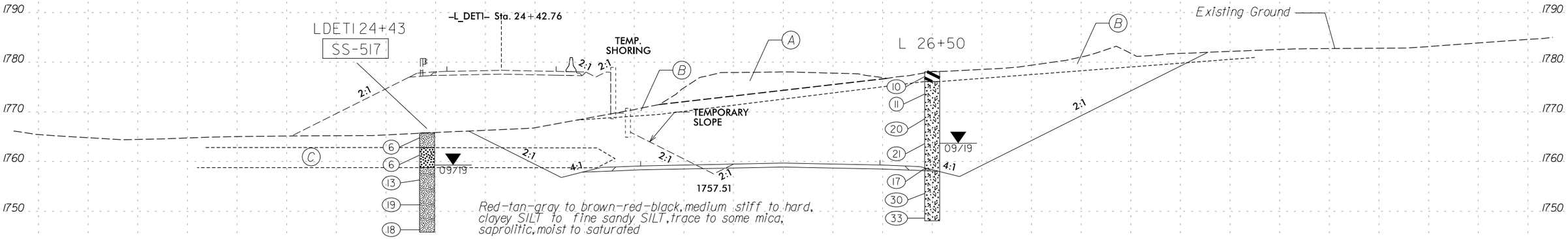
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-517	26+50	71 'LT	3.5-5.0	A-2-4 (0)	30	5	21	46	11	22	63	56	29.3	15.8	-

Ⓐ ROADWAY EMBANKMENT Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist

Ⓑ RESIDUAL Red-brown, stiff, silty highly plastic CLAY, moist

Ⓒ Brown, loose, silty SAND, trace rock fragments, moist

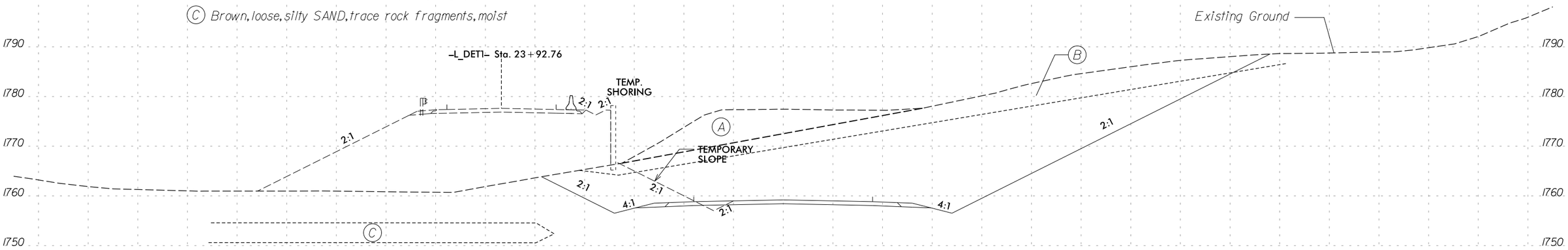


26+50.00

Ⓐ ROADWAY EMBANKMENT Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist

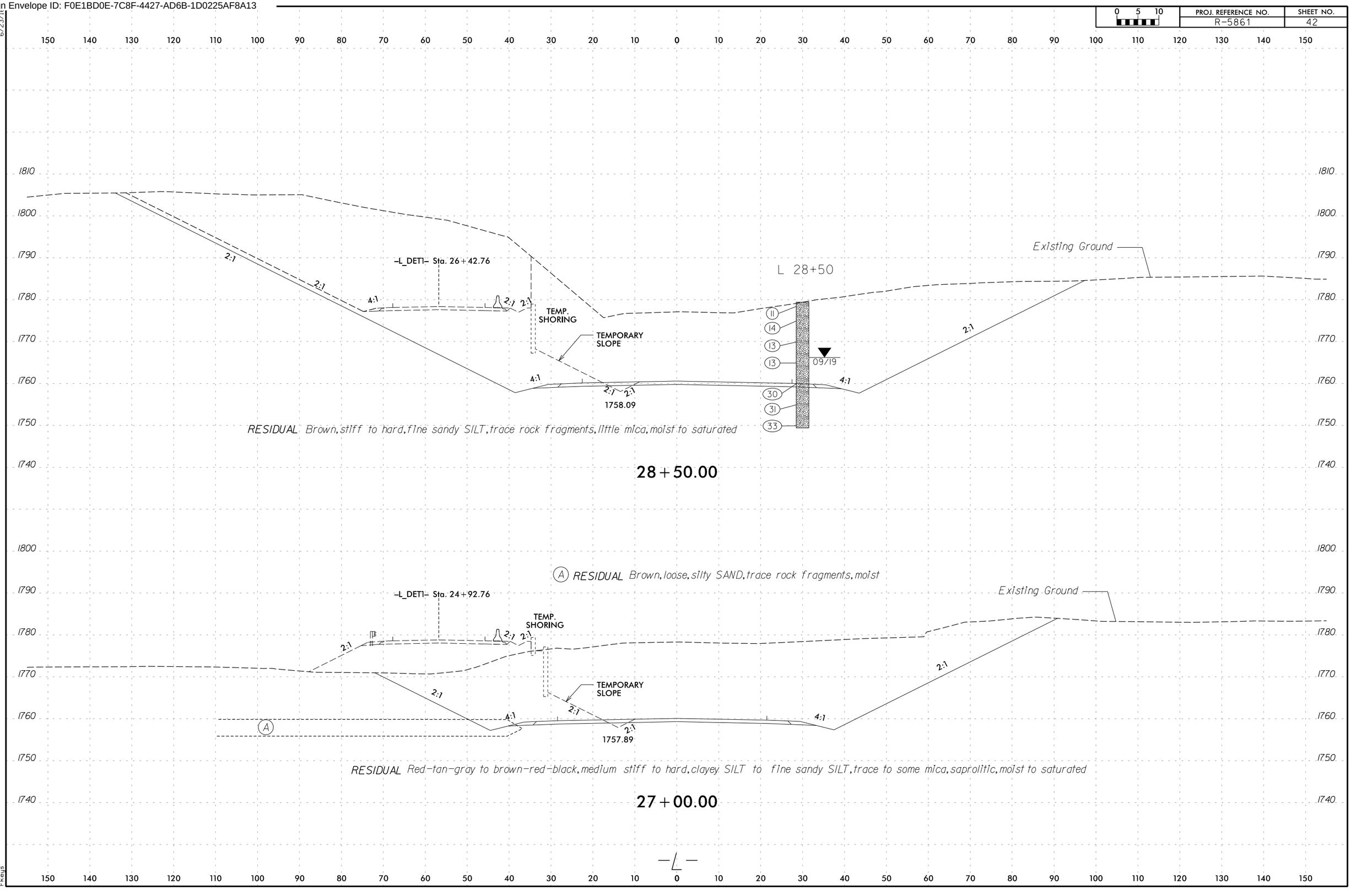
Ⓑ RESIDUAL Red-brown, stiff, silty silty highly plastic CLAY, moist

Ⓒ Brown, loose, silty SAND, trace rock fragments, moist

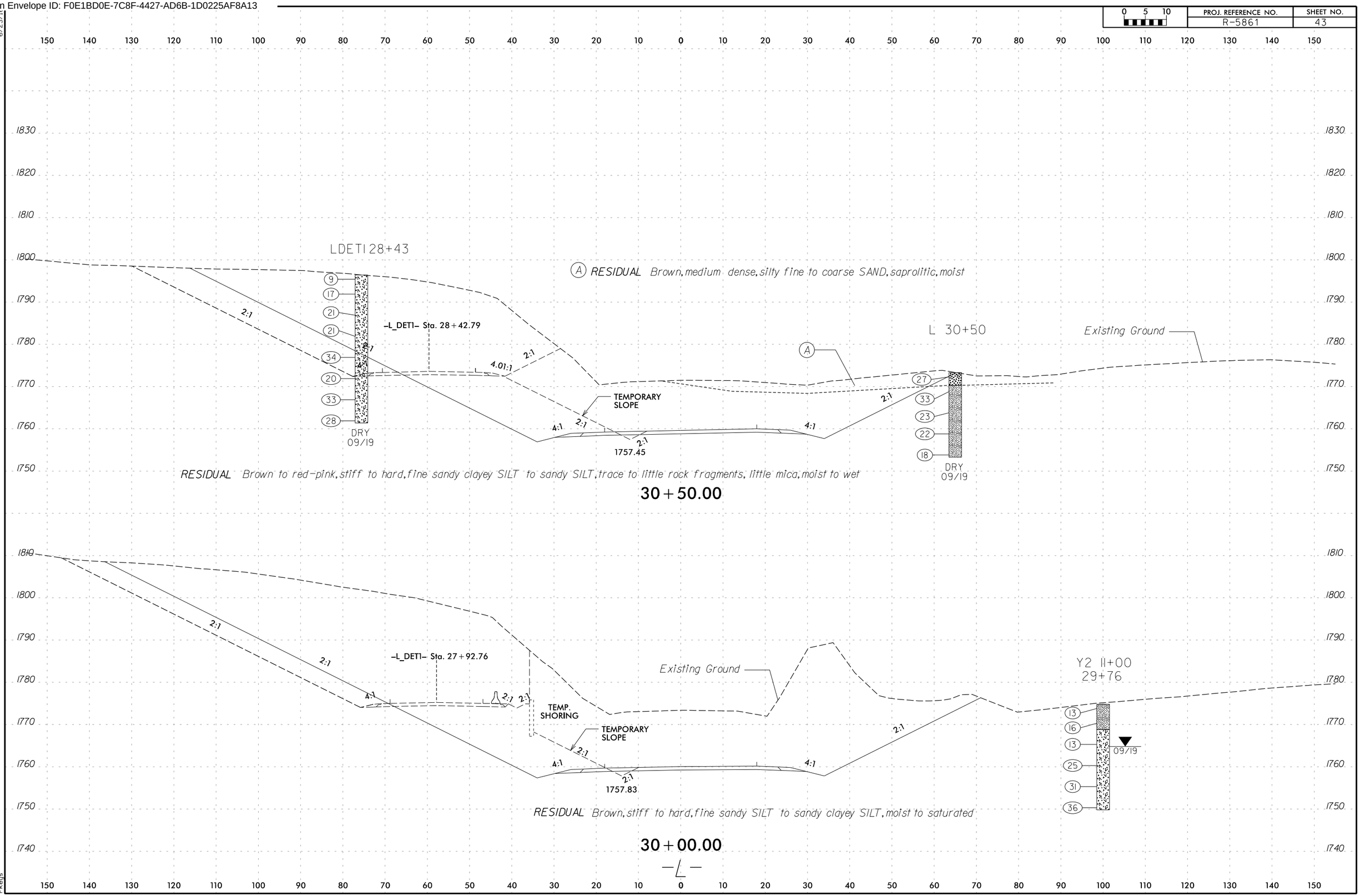


Red-tan-gray to brown-red-black, medium stiff to hard, clayey SILT to fine sandy SILT, trace to some mica, saprolitic, moist to saturated

26+00.00

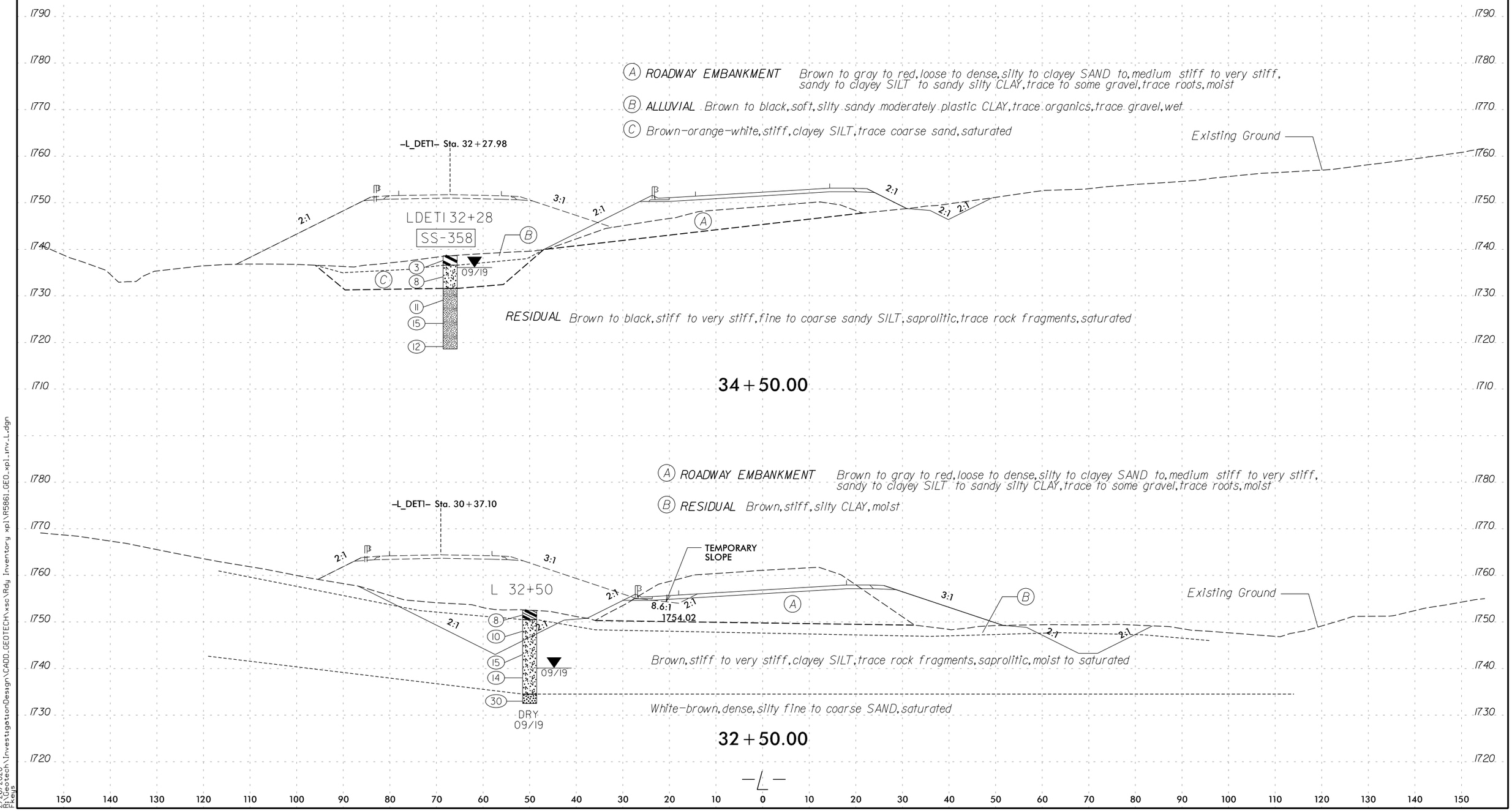


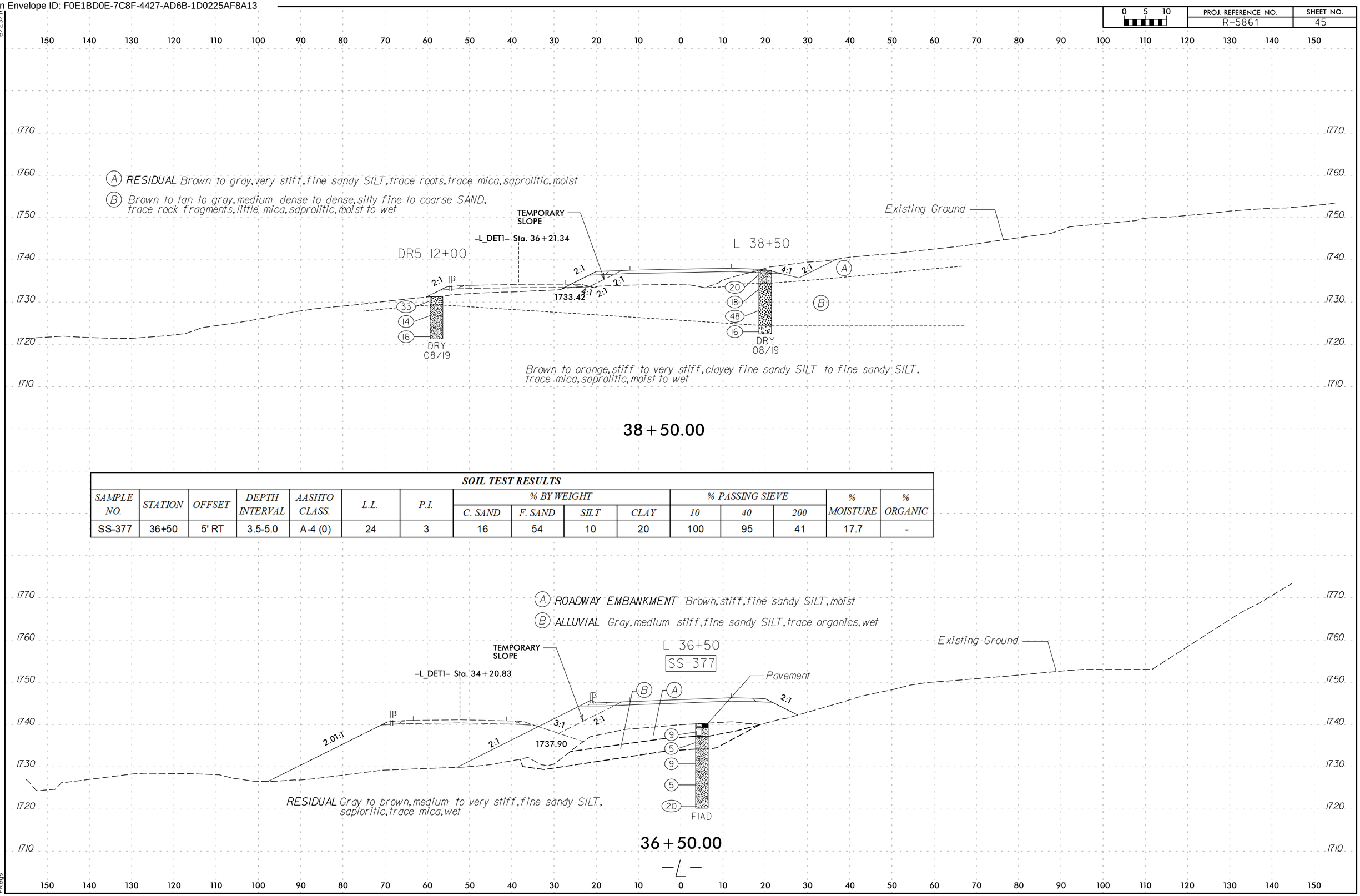
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	43



SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-358	34+50	67' LT	0.0-1.5	A-7-5 (6)	58	17	19	37	23	21	90	80	47.1	44.2	-

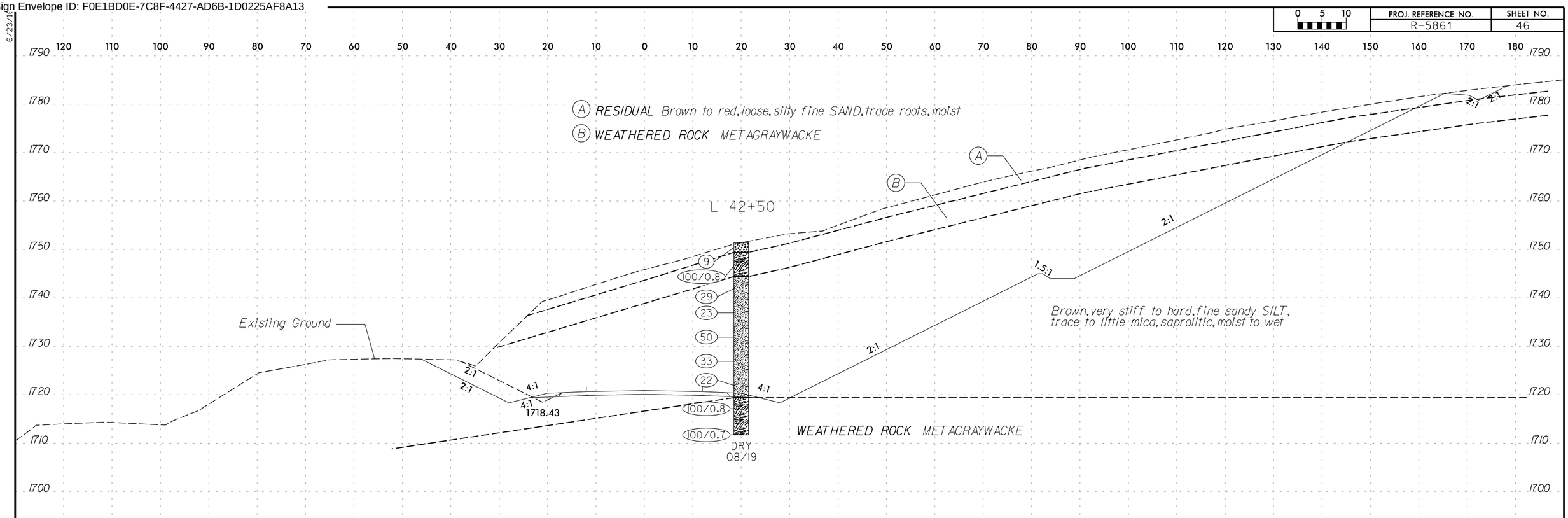




SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-377	36+50	5' RT	3.5-5.0	A-4 (0)	24	3	16	54	10	20	100	95	41	17.7	-

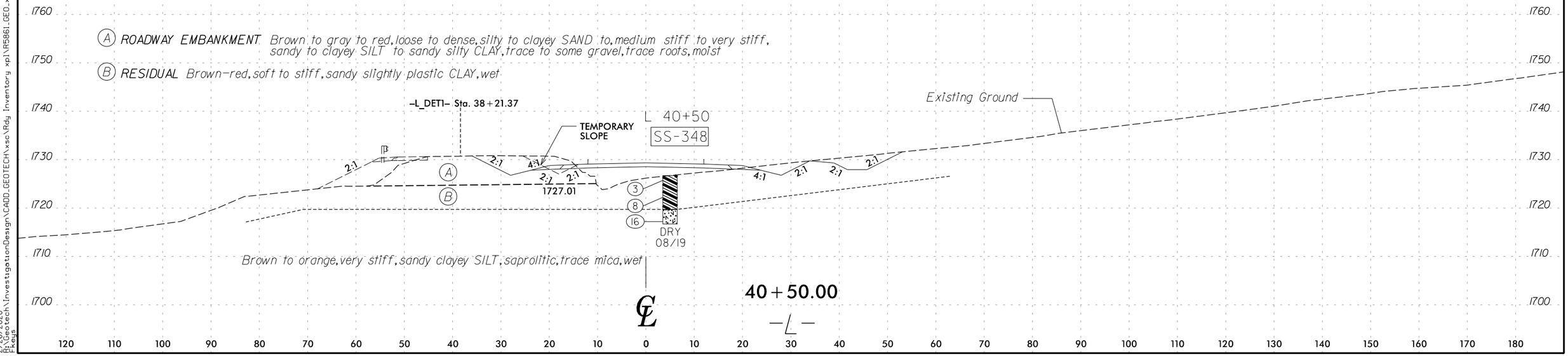
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	46



42+50.00

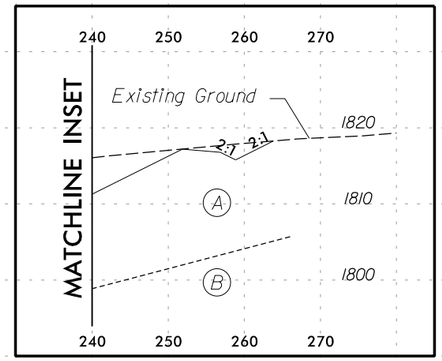
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-348	40+50	5' RT	0.0-1.5	A-6 (6)	37	14	11	35	21	33	93	88	56.7	25.3	-



40+50.00

–L–



(A) *RESIDUAL* Red to brown, medium dense to very dense, silty fine SAND, trace rock fragments, saprolitic, moist

(B) Brown to gray, very stiff to hard, fine sandy SILT, trace rock fragments, saprolitic, moist to wet

(C) *WEATHERED ROCK* METAGRAYWACKE

Existing Ground

L 44+50

11
13
72
37
43
27
100/0.9
60/0.1
08/19

2:1
4:1
1.5:1
2:1
2:1

CRYSTALLINE ROCK METAGRAYWACKE

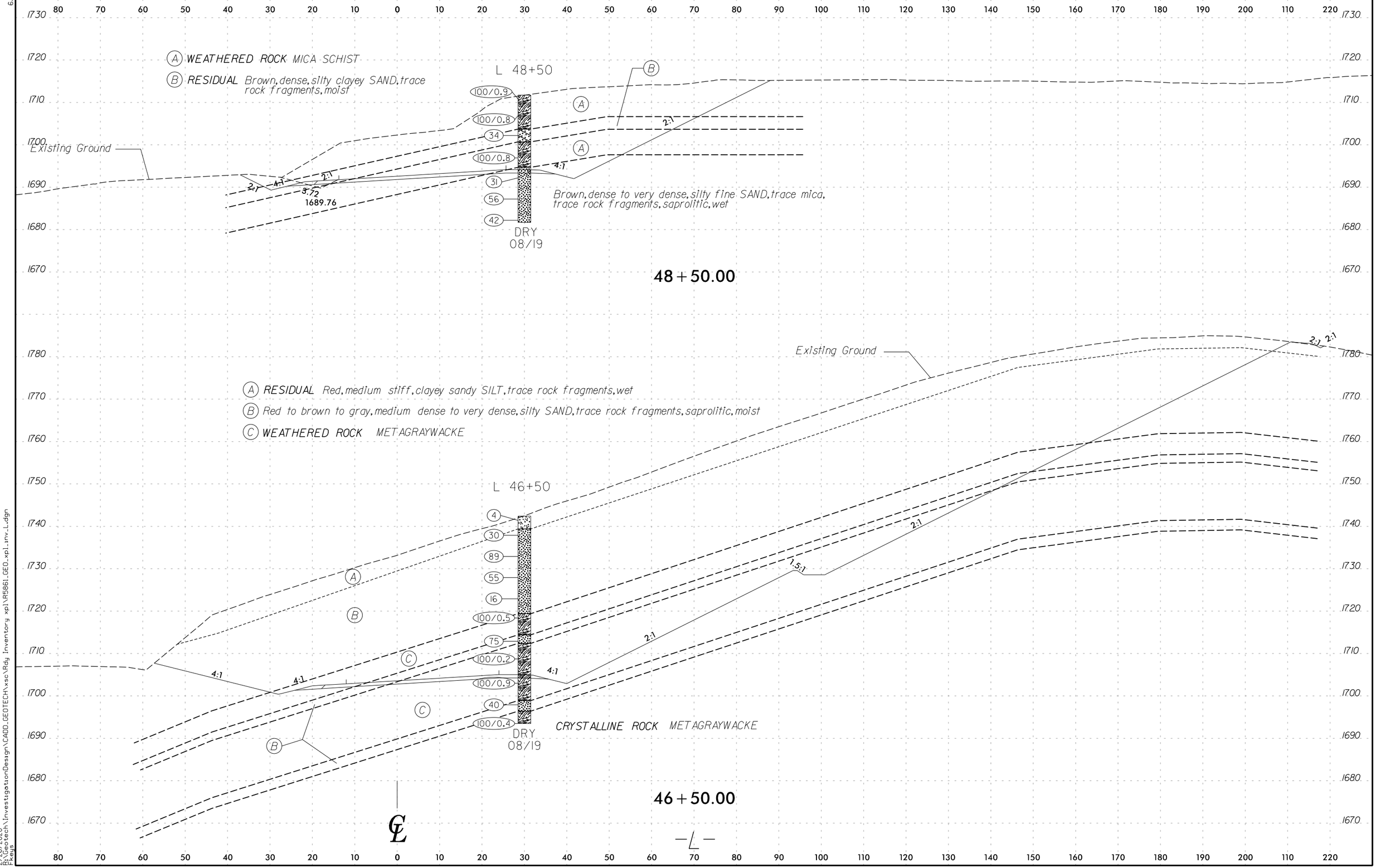
℄

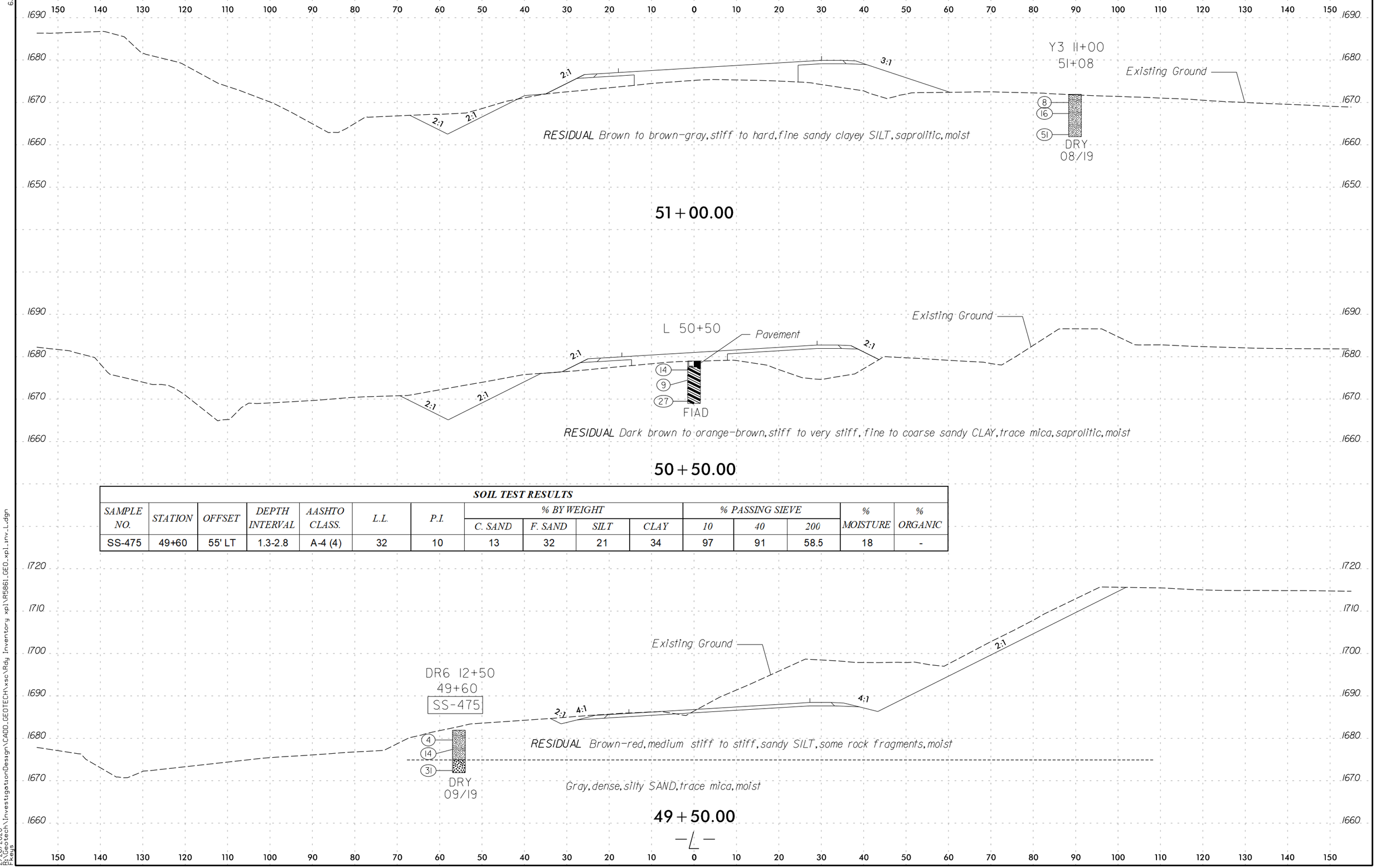
44+50.00
—L—

MATCHLINE INSET

50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250

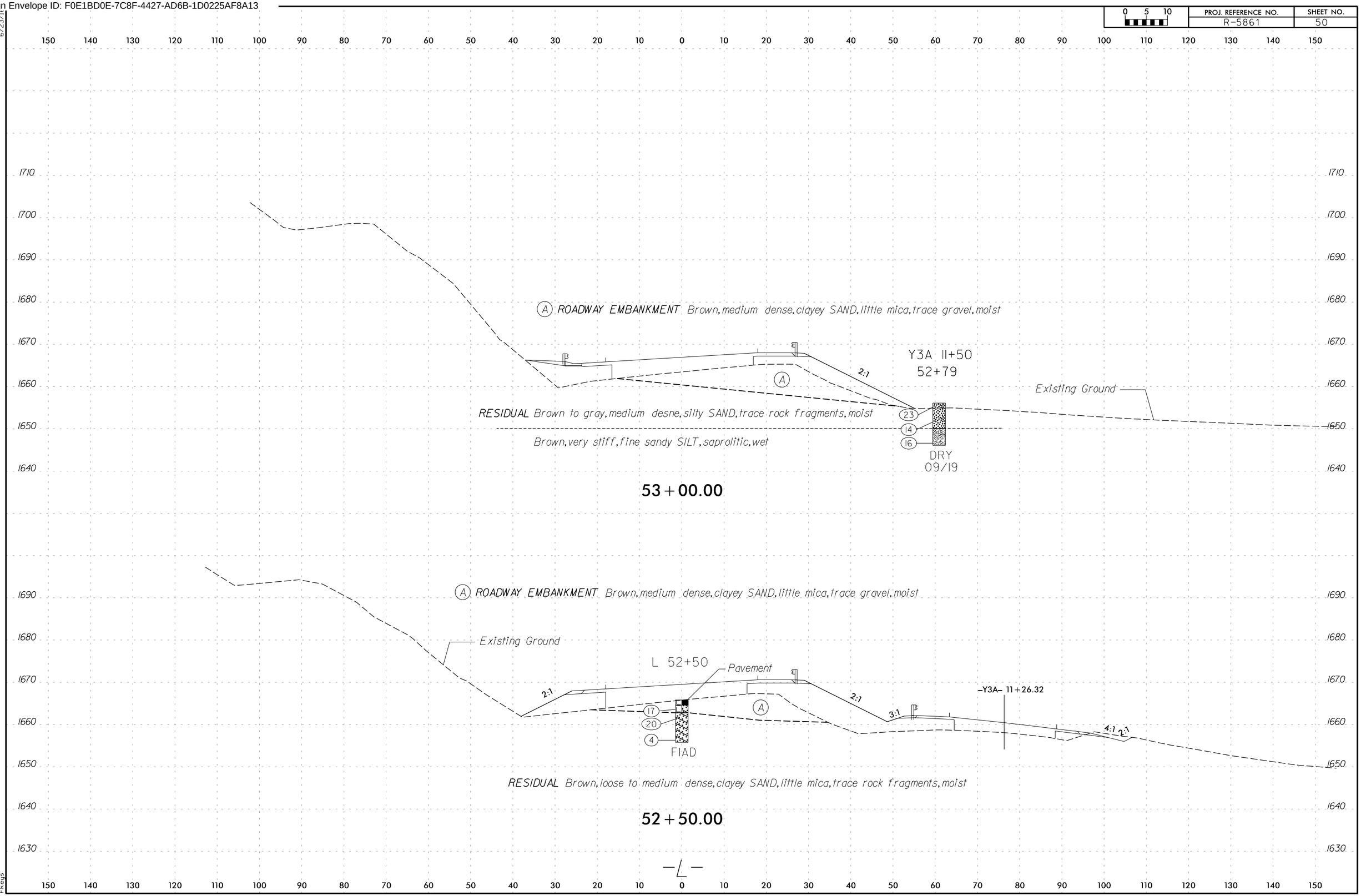
1830 1820 1810 1800 1790 1780 1770 1760 1750 1740 1730 1720 1710 1700 1690





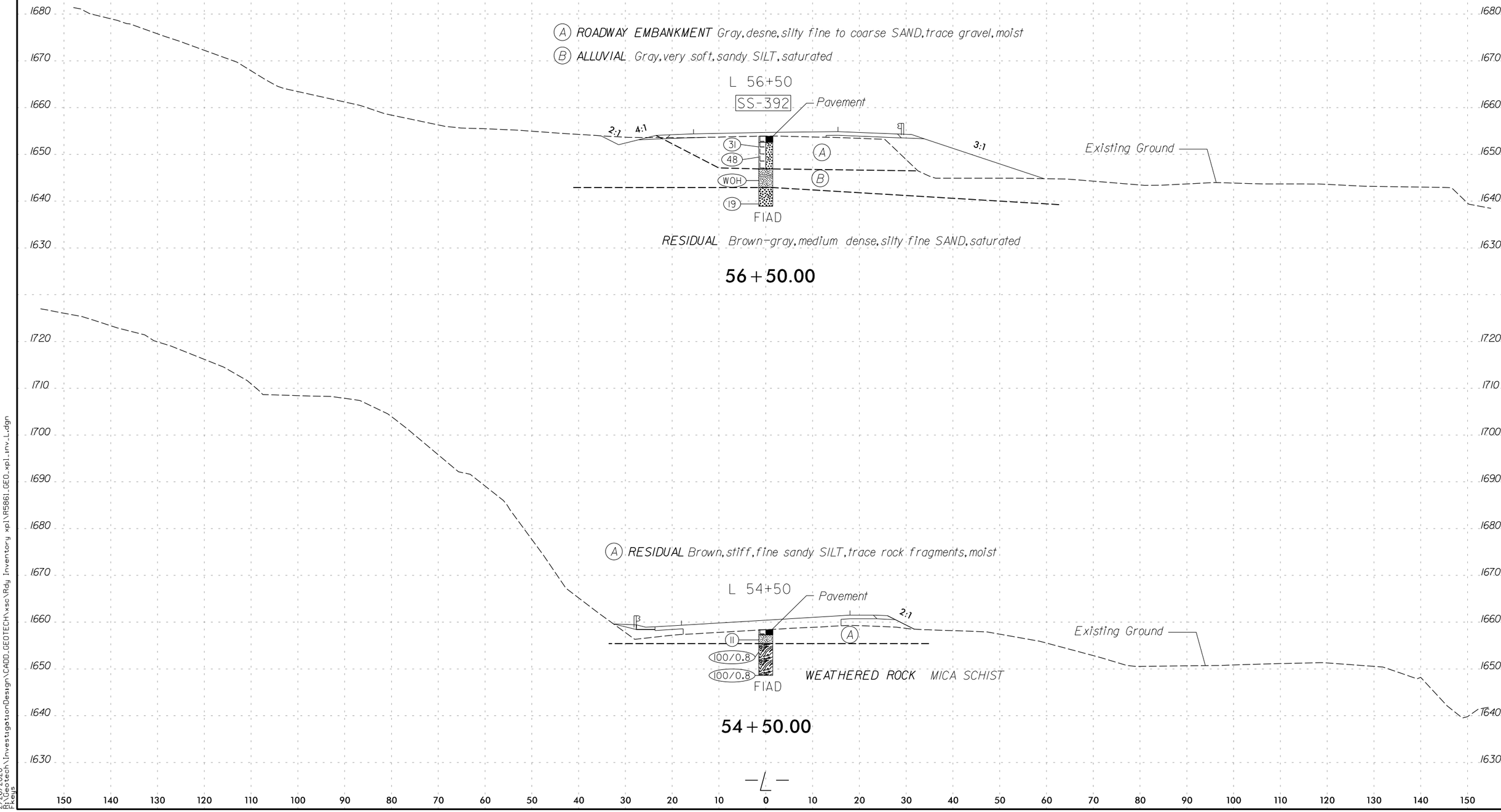
SOIL TEST RESULTS

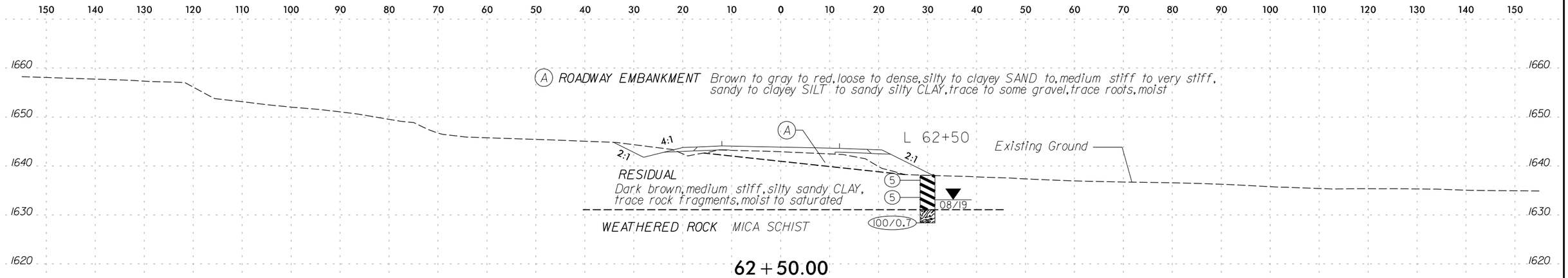
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-475	49+60	55' LT	1.3-2.8	A-4 (4)	32	10	13	32	21	34	97	91	58.5	18	-



SOIL TEST RESULTS

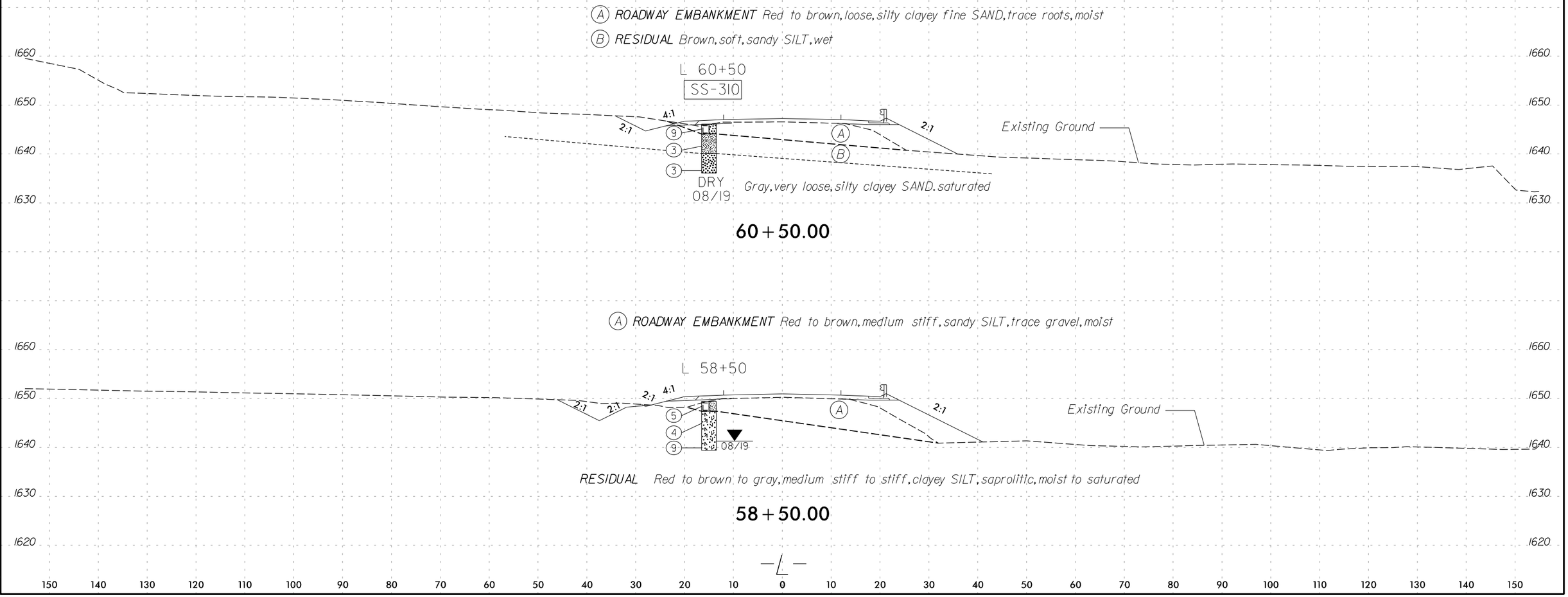
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-392	56+50	0	8.5-10.0	A-4 (1)	32	4	13	41	23	23	100	94	54.8	26.3	-

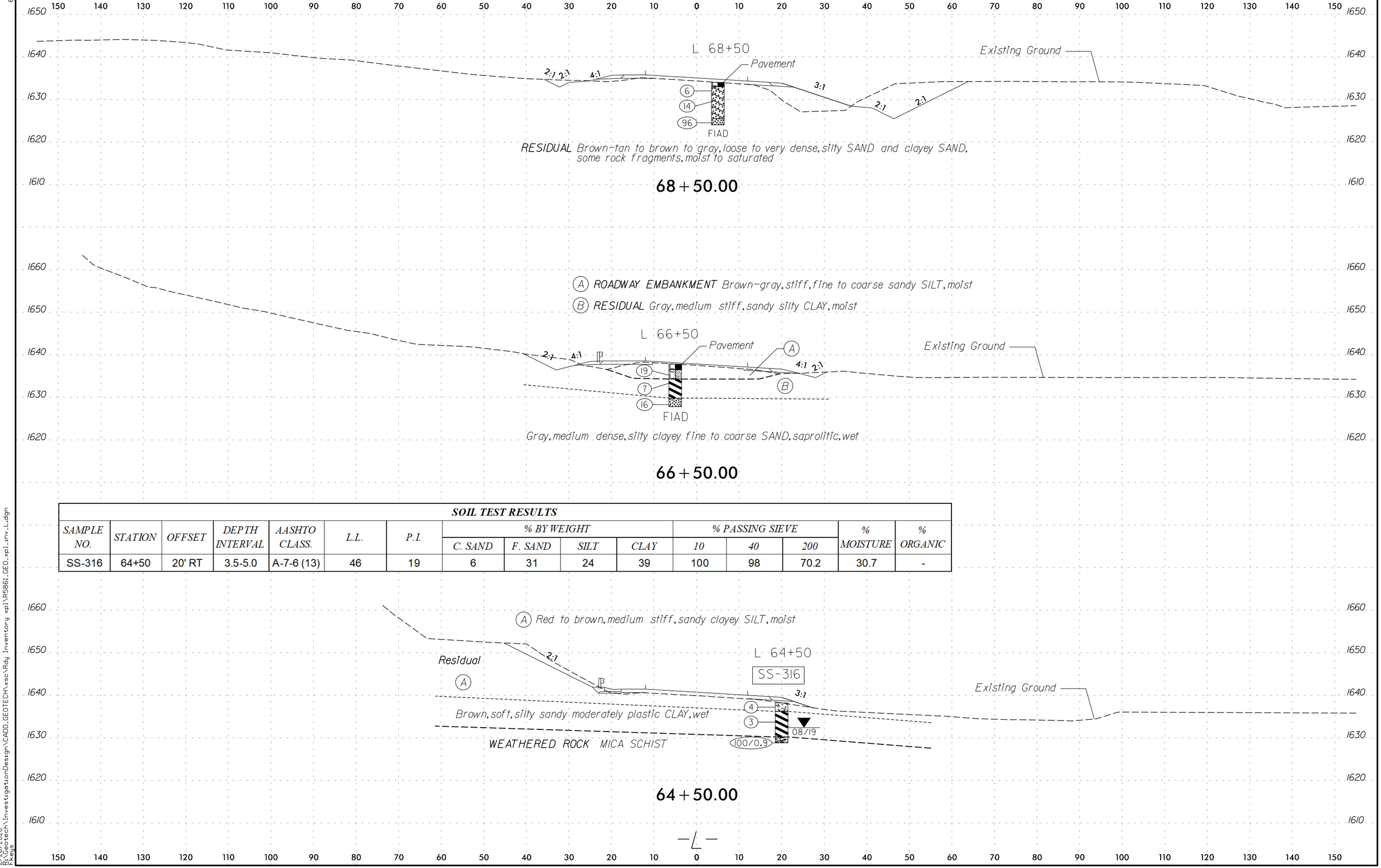




SOIL TEST RESULTS

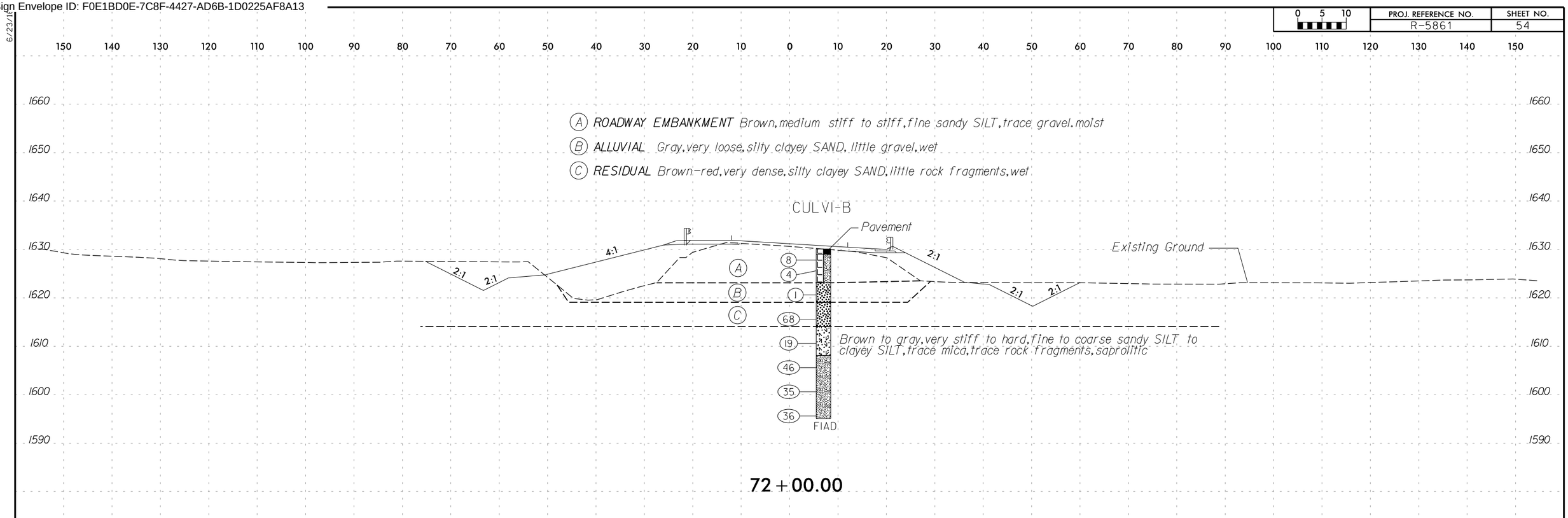
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-310	60+50	15' LT	3.5-5.0	A-4 (0)	25	6	16	48	11	25	98	92	43.4	19.5	-





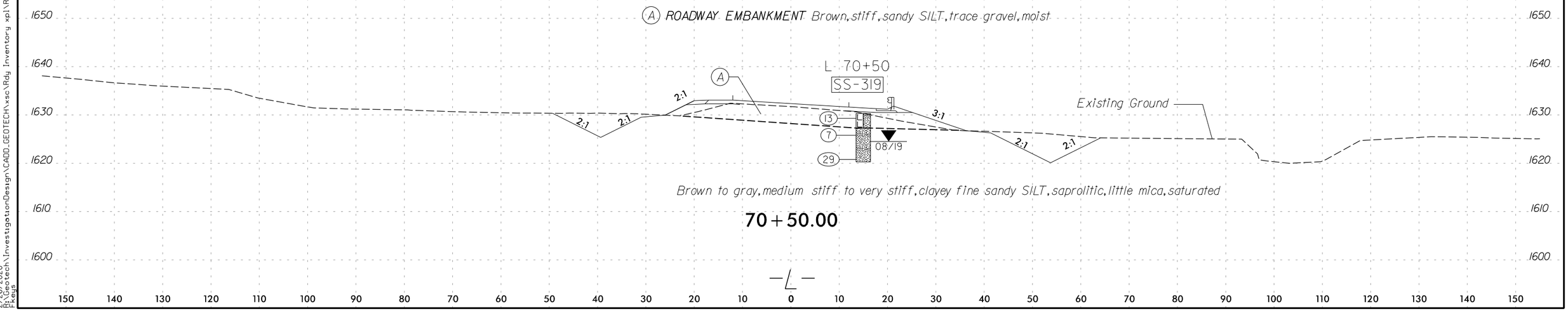
SOIL TEST RESULTS

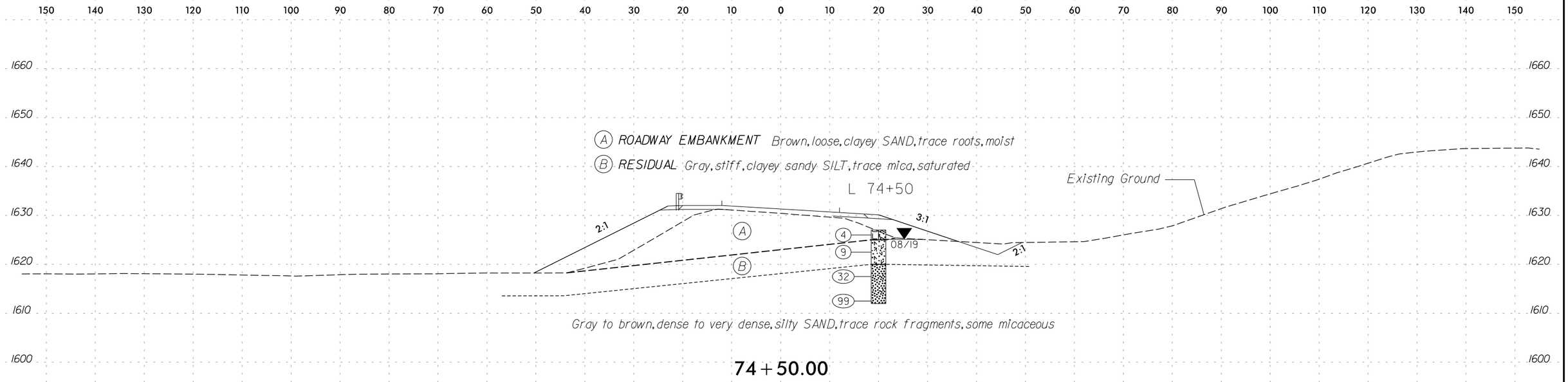
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-316	64+50	20' RT	3.5-5.0	A-7-6 (13)	46	19	6	31	24	39	100	98	70.2	30.7	-



SOIL TEST RESULTS

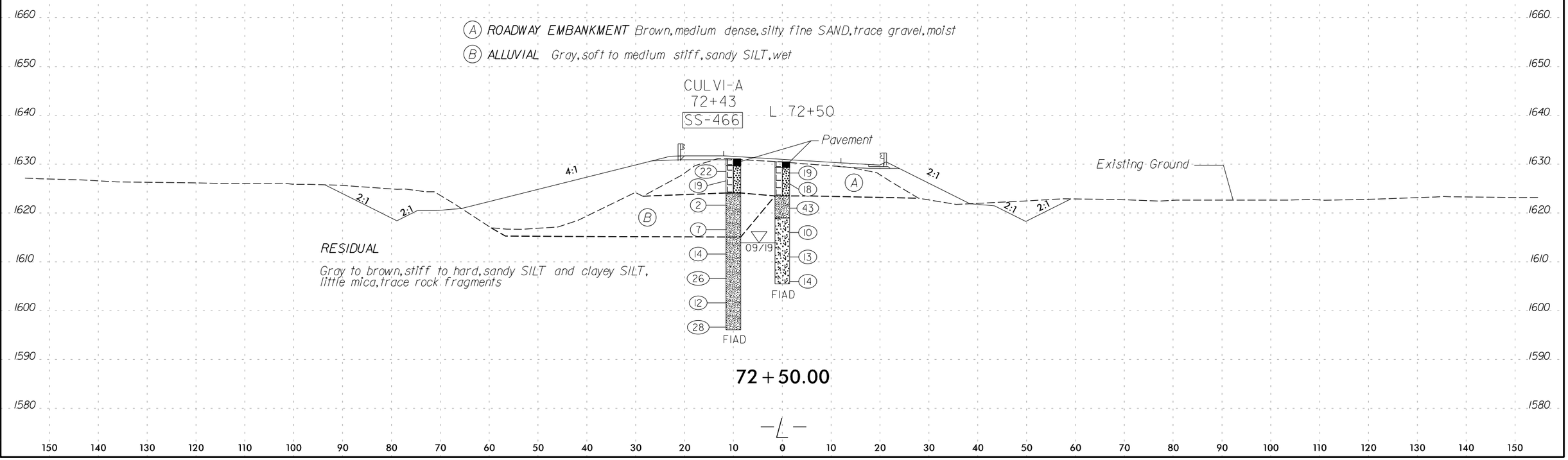
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-319	70+50	50' RT	3.5-5.0	A-4 (0)	27	5	8	51	17	24	100	98	51.5	18.3	-

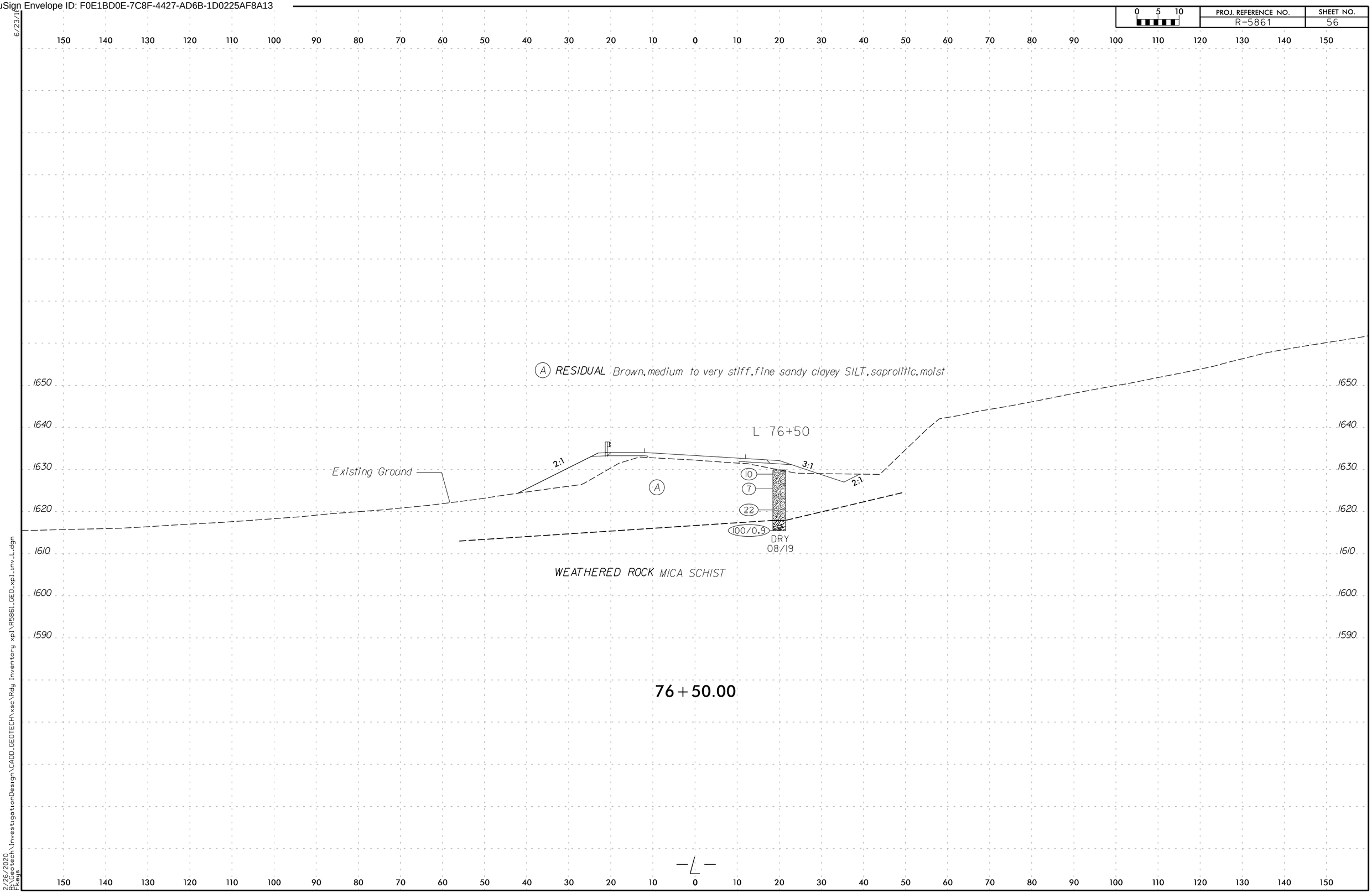




SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-466	72+43	10' LT	8.5-10.0	A-4 (3)	31	8	8	36	22	34	99	97	63.5	29.2	-





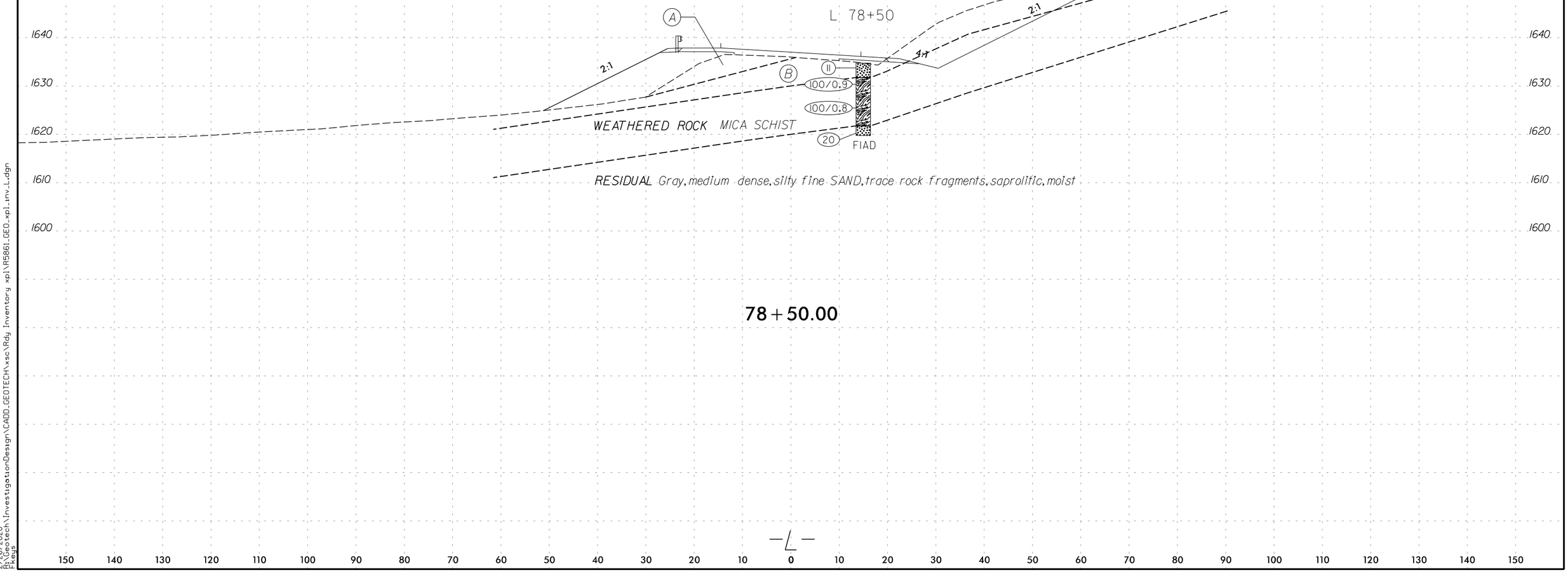
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	57

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

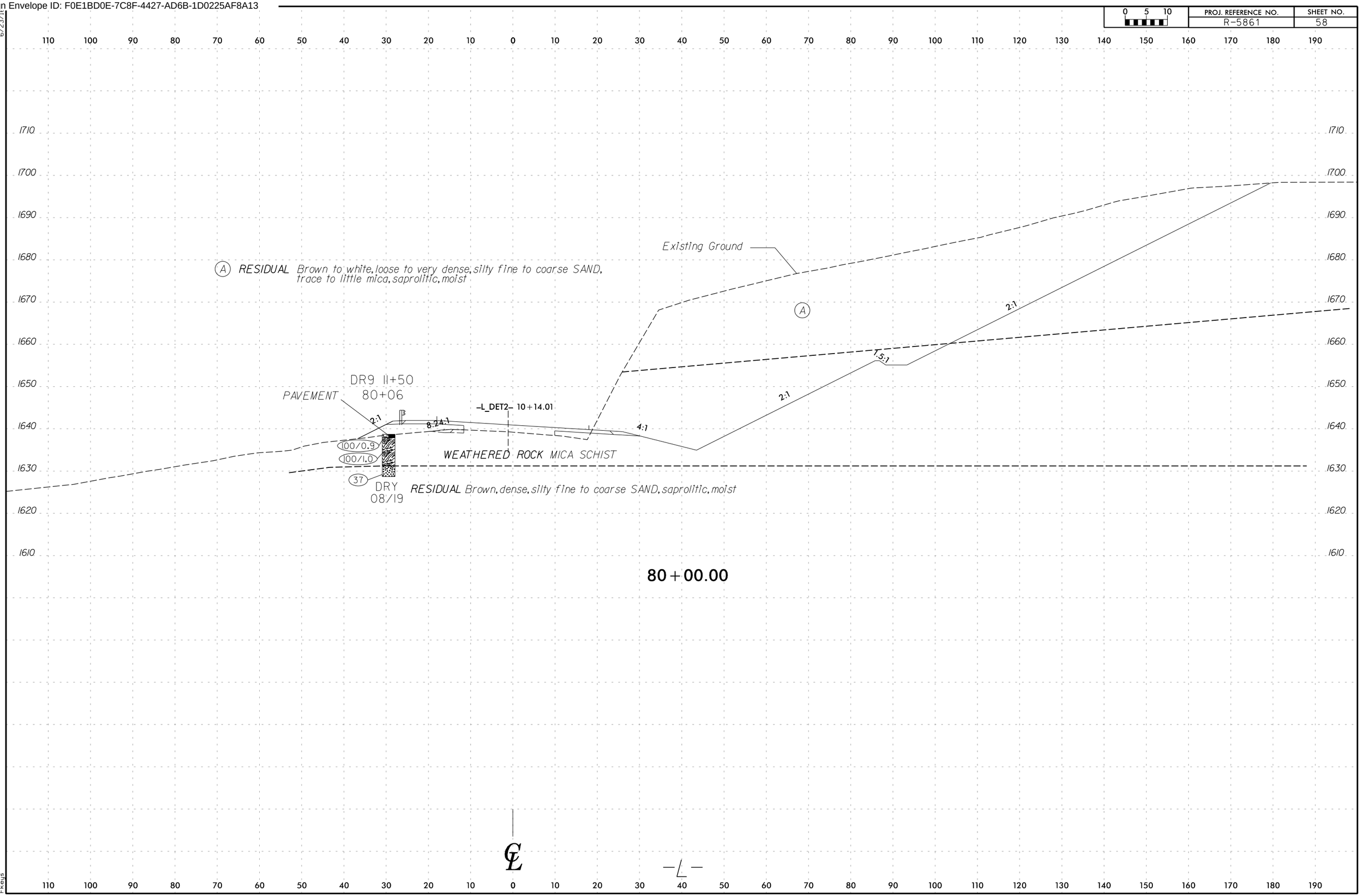
1680 1670 1660 1650 1640 1630 1620 1610 1600

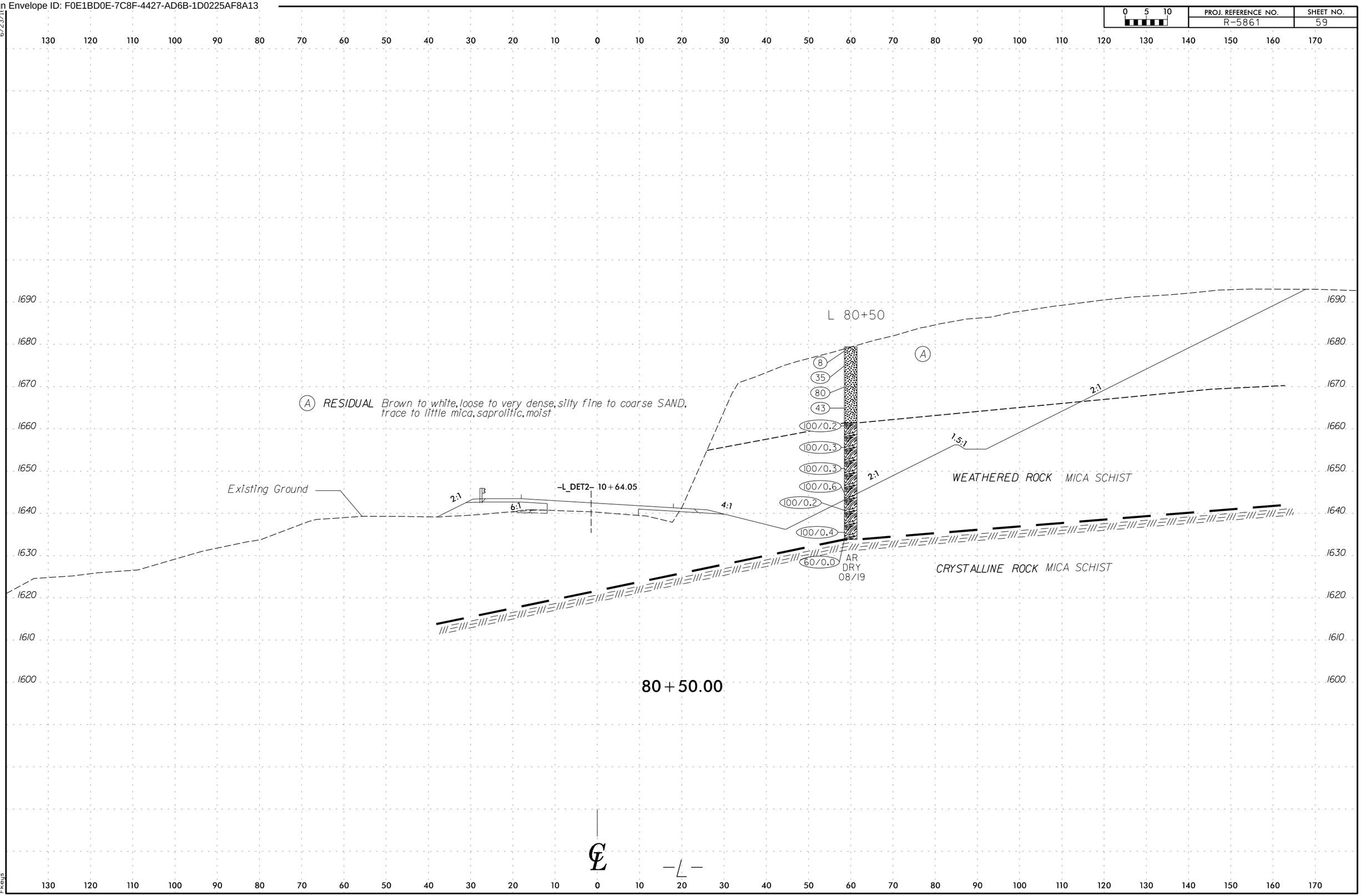
Ⓐ ROADWAY EMBANKMENT Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist

Ⓑ RESIDUAL Red to brown, medium dense, silty fine SAND, trace rock fragments, moist



78+50.00





150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1680 1670 1660 1650 1640 1630 1620

(A) *ROADWAY EMBANKMENT* *Red to brown, stiff, sandy SILT, little mica, moist*

(B) *RESIDUAL* *Brown, stiff, fine sandy clayey SILT, trace roots, moist*

Y4 15+00
83+74

–L_DET2– 13+65.40

2:1 3.01:1 3:1

Existing Ground

(B) (A)

(9) (3) (17) (21) (43)

08/19

Brown to orange, soft, silty fine sandy CLAY, wet

Brown, very stiff to hard, fine to coarse sandy SILT, trace mica, trace rock fragments, saprolitic, saturated

83+50.00

(A) *ROADWAY EMBANKMENT* *Brown to white, medium dense to dense, silty fine to coarse SAND, little gravel, moist*

L 82+50

–L_DET2– 12+64.60

2:1 3.01:1 3:1

Pavement

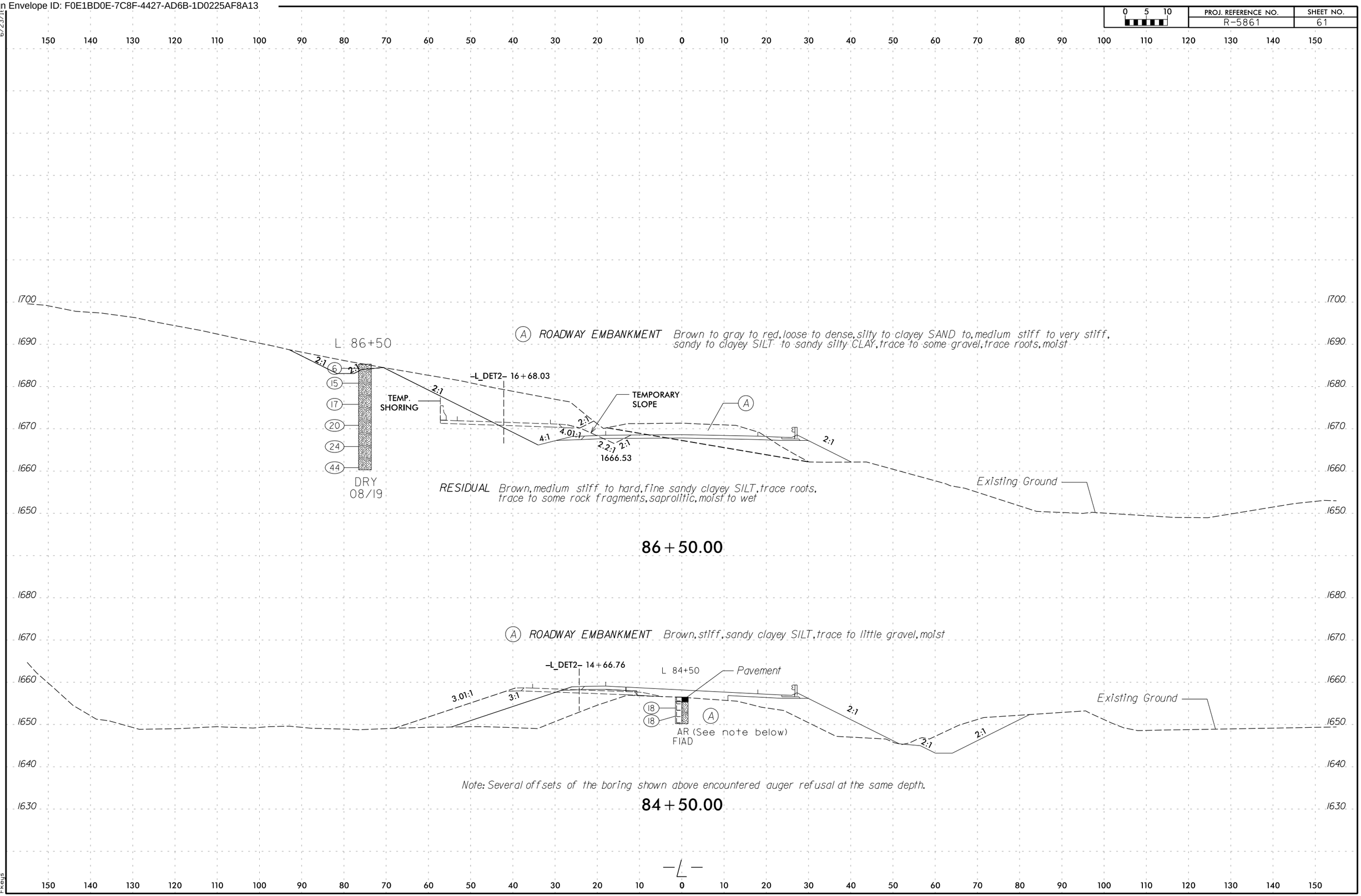
Existing Ground

(45) (20) (11) (5) (A)

FIAD

RESIDUAL *Gray, medium stiff to stiff, clayey SILT, trace mica, moist*

82+50.00



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	62

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1730 1720 1710 1700 1690 1680 1670 1660

L 88+00 AP

2:1 2:1 2:1 1.5:1

TEMP. SHORING

L_DET2– 18+18.51

2:1 4:1 2:1 4:1 3:2:1 2:1

TEMPORARY SLOPE

1674.76

DRY
08/19

RESIDUAL Red-brown to brown, soft to stiff, fine sandy SILT, moist

Existing Ground

88+00.00

L 87+50 AP

2:1 2:1 2:1 1.5:1 2:1

TEMP. SHORING

–L_DET2– 17+68.30

4:1 2:1 4:1 3:1 2:1 2:1

TEMPORARY SLOPE

1671.97

DRY
08/19

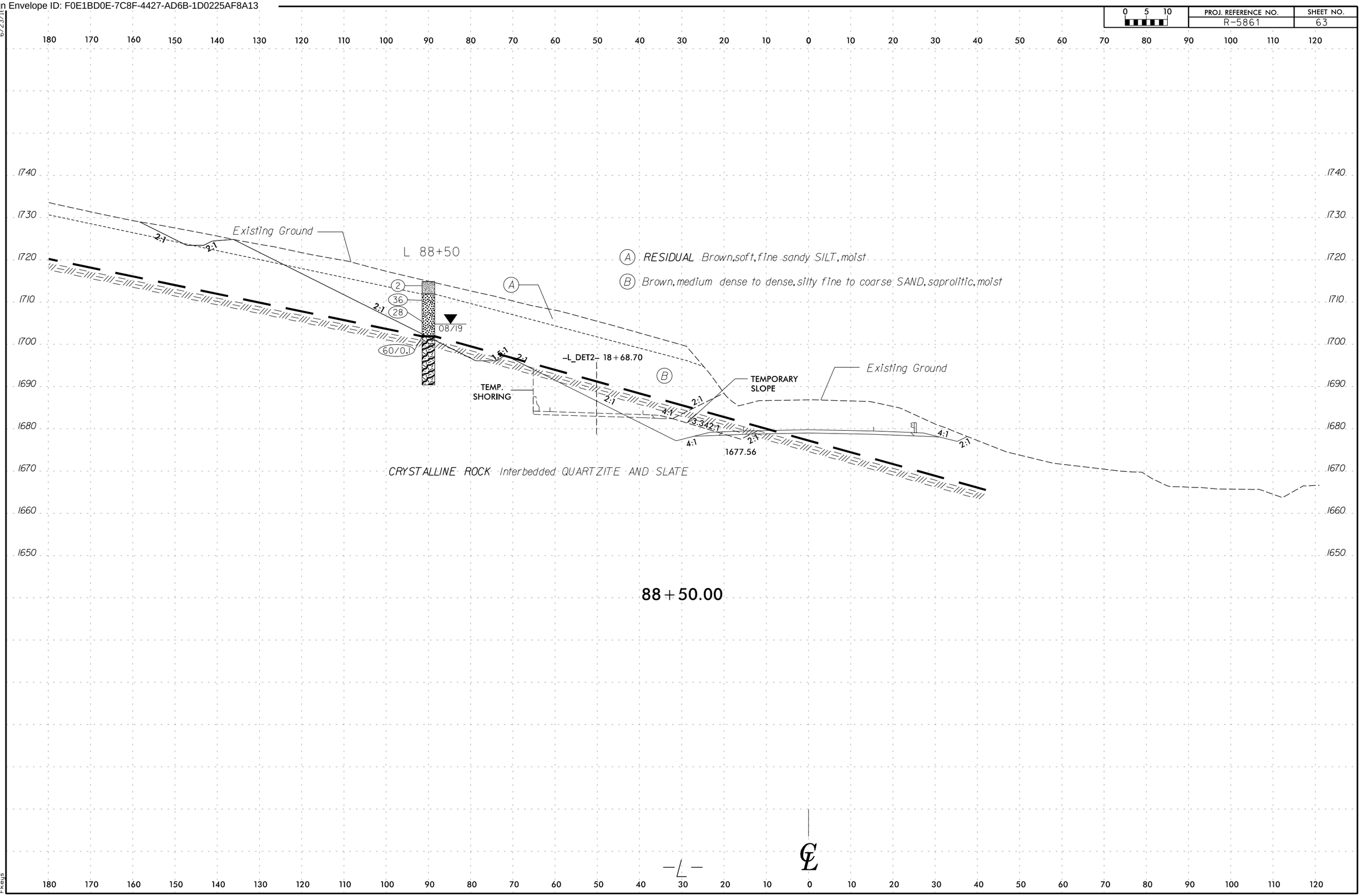
RESIDUAL Brown, soft to stiff, fine sandy SILT, moist

Existing Ground

87+50.00

1730 1720 1710 1700 1690 1680 1670 1660 1650

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	64

190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

1750 1740 1730 1720 1710 1700 1690 1680 1670 1660

L 89+00 AP

Ⓐ *RESIDUAL* Brown to tan, medium dense to dense, silty fine SAND, trace rock fragments, moist

Ⓑ *WEATHERED ROCK* GRANITE

CRYSTALLINE ROCK QUARTZITE AND SLATE

2:1 2:1 2:1 2:1 1.5:1 2:1 2:1 2:1 4:1 2:1 4:1 2:1

100/0.4

60/0.0

AR
DRY
08/19

Ⓐ

Existing Ground

–L_DET2– 19+18.89

TEMP.
SHORING

Ⓑ

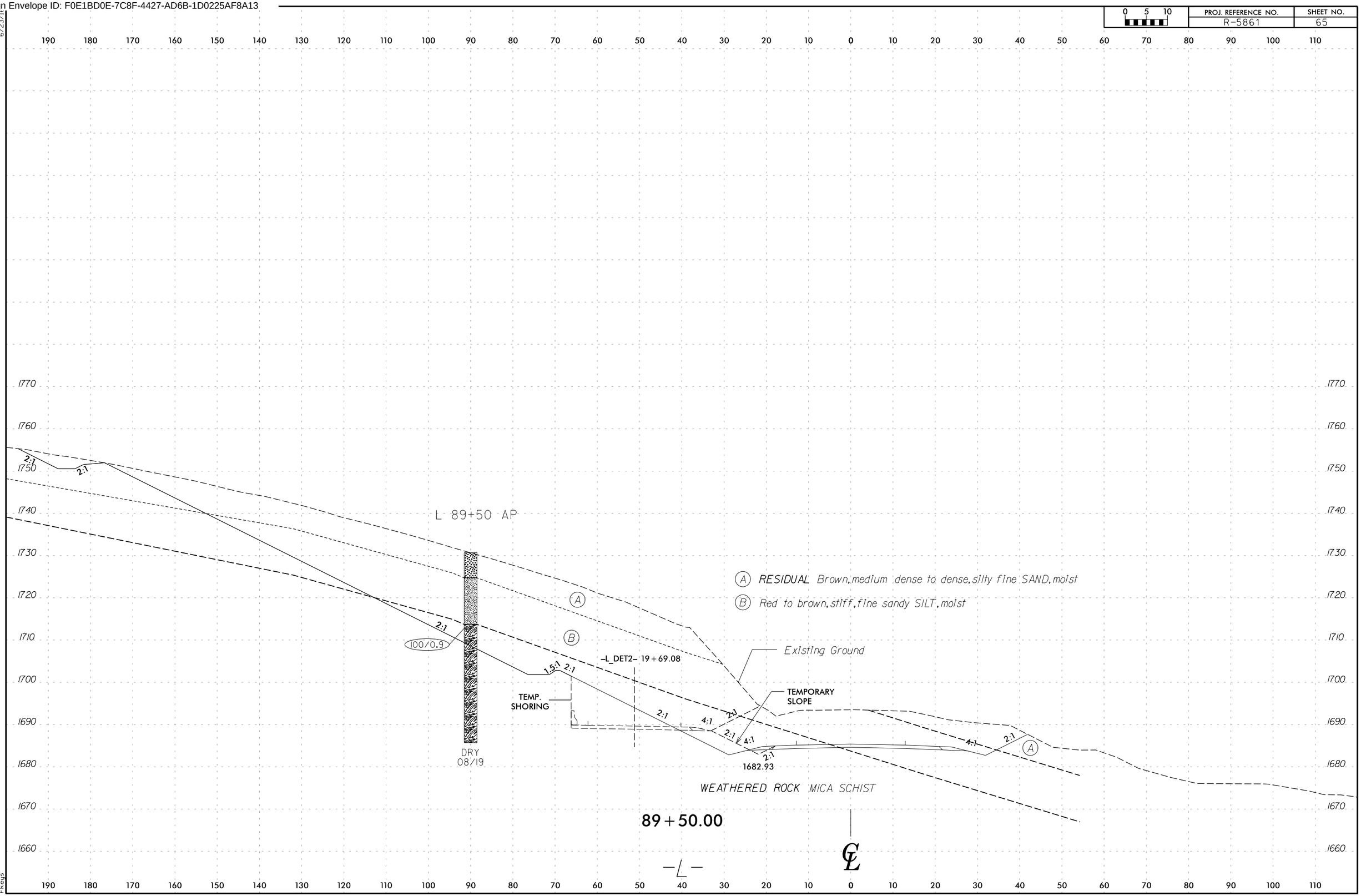
TEMPORARY
SLOPE

1680.11

89+00.00

℄

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	65



6/23/16

220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-225	90+00	90' LT	1.0-8.5	A-4 (0)	29	5	10	51	17	22	96	92	46.2	ND	-

1780 1770 1760 1750 1740 1730 1720 1710 1700 1690 1680 1670 1660 1650

L 90+00 AP

S-225

2:1 2:1 2:1

(A) *RESIDUAL* Brown, medium stiff to stiff, clayey sandy SILT, moist

(A)

Existing Ground

–L_DET2– 20+19.27

1.5:1 2:1

TEMP. SHORING

TEMPORARY SLOPE

2:1 4:1 2:1 2.185:1 4:1 2:1 4:1 2:1

1685.75

60/0.0 AR DRY 08/19

CRYSTALLINE ROCK QUARTZITE

(A)

90+00.00

—L—

℄

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	67

220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

1790 1780 1770 1760 1750 1740 1730 1720 1710 1700 1690 1680 1670 1660 1650

2:1 2:1

L 90+50

(A) RESIDUAL Brown, medium stiff, sandy clayey SILT, moist

(B) WEATHERED ROCK QUARTZITE

(5)
(6)
100/0.7
60/0.0
DRY
08/19

Existing Ground

(A)
(B)

L_DET2 - 20+69.48

2:1

1.5:1 2:1

TEMP. SHORING

2:1 4:1 2:1 4:1 2:1 4:1 2:1

TEMPORARY SLOPE

1688.54

CRYSTALLINE ROCK QUARTZITE

90+50.00

—℄—

℄

6/23/15

2/26/2020
R:\Geotech\InvestigationDesign\CADD_GEOTECH\xsc\Rdy Inventory xpl\R5861_GEO_xpl_inv_L.dgn
FKeys

220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

1800 1790 1780 1770 1760 1750 1740 1730 1720 1710 1700 1690 1680

Ⓐ *RESIDUAL Brown-orange-tan, medium dense to dense, silty fine SAND, moist*

L 91+50 AP

Existing Ground

CRYSTALLINE ROCK QUARTZITE

60/0.0

AR
DRY
08/19

TEMP.
SHORING

2:1

.5:1

–L_DET2– 21+69.85

TEMPORARY
SLOPE

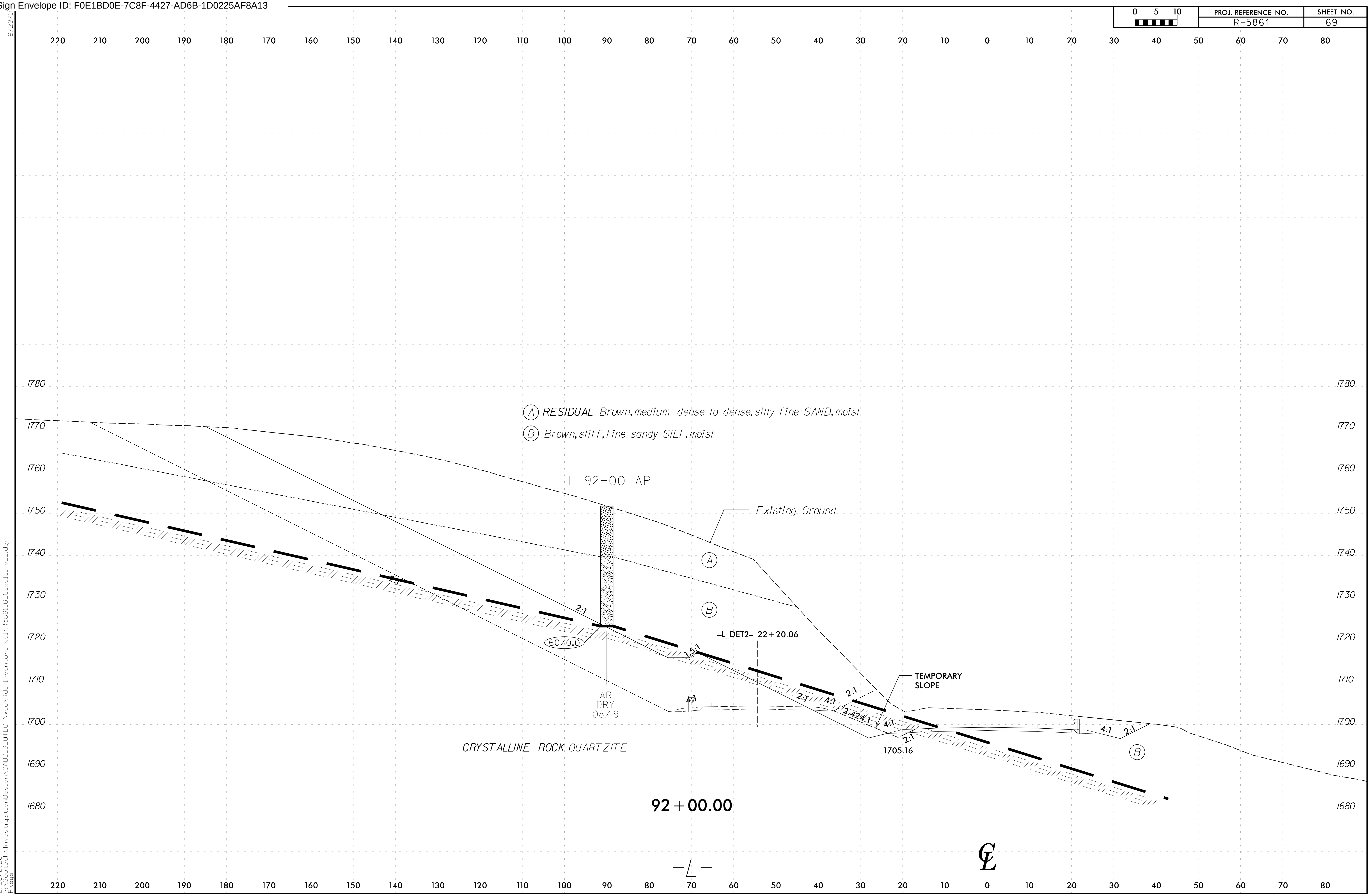
2:1 4:1 2:1 4:1 2:1 4:1 2:1

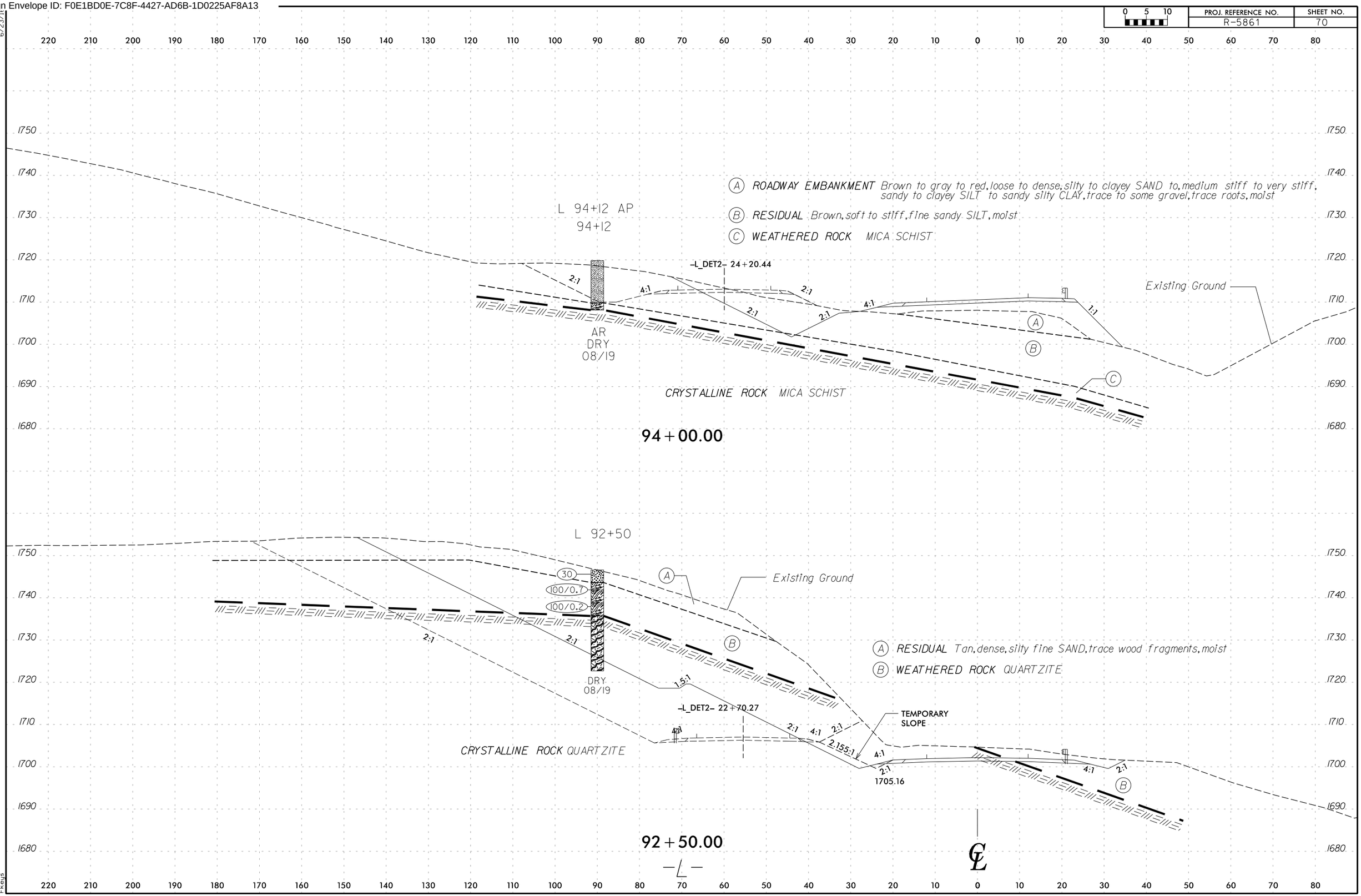
1694.13

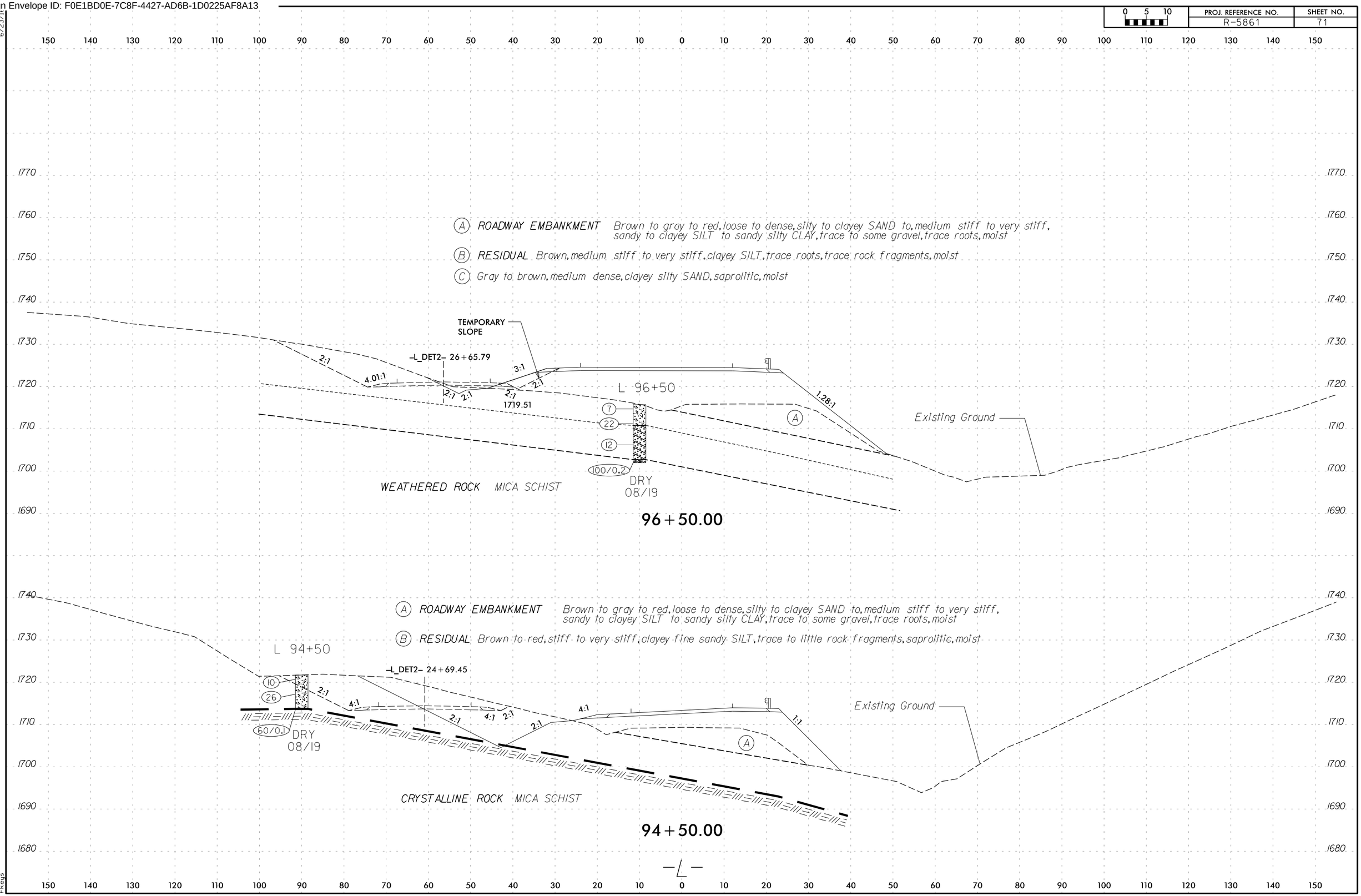
91+50.00

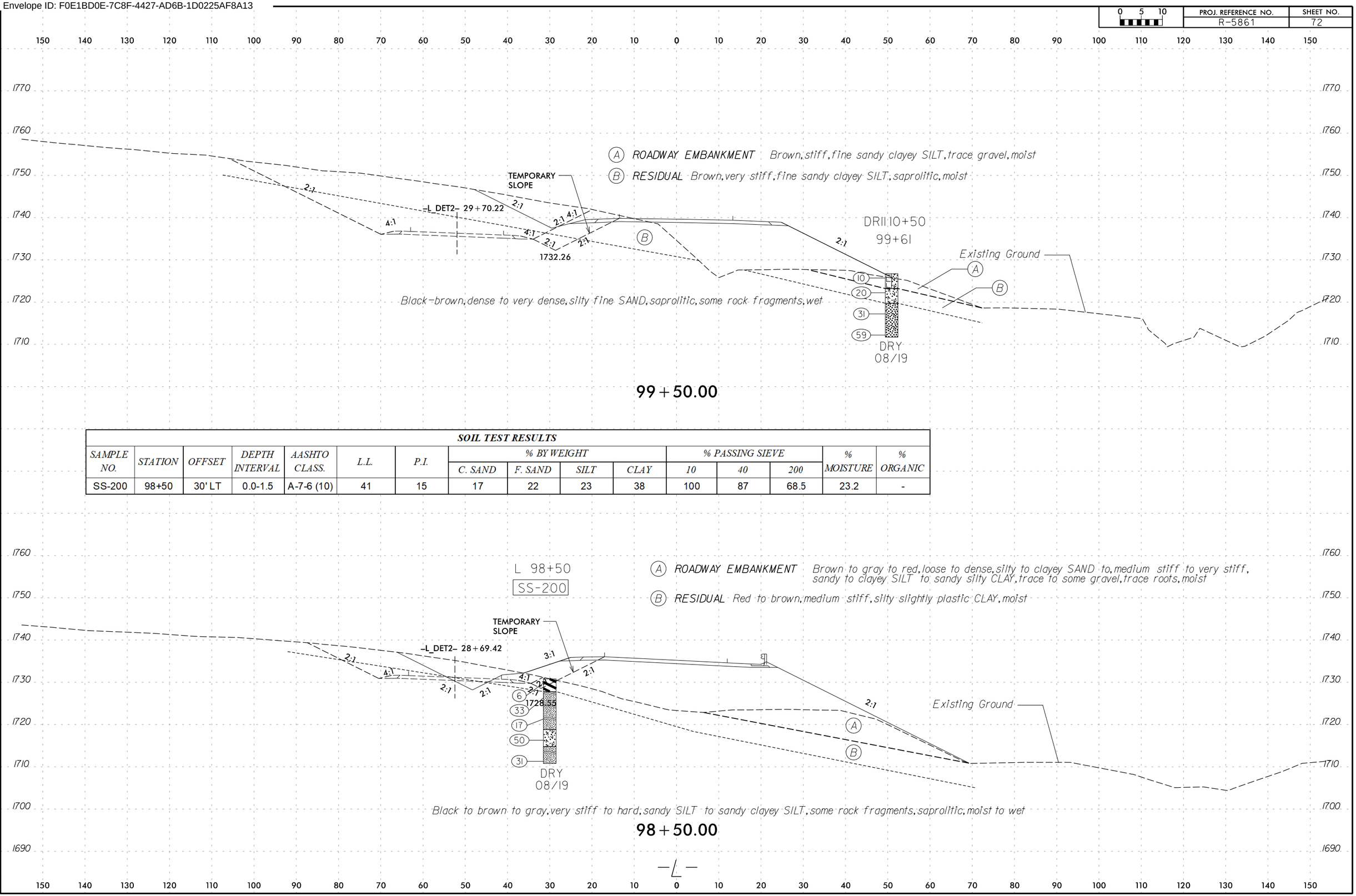
℄

DocuSign Envelope ID: F0E1BD0E-7C8F-4427-AD6B-1D0225AF8A13









SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-200	98+50	30' LT	0.0-1.5	A-7-6 (10)	41	15	17	22	23	38	100	87	68.5	23.2	-

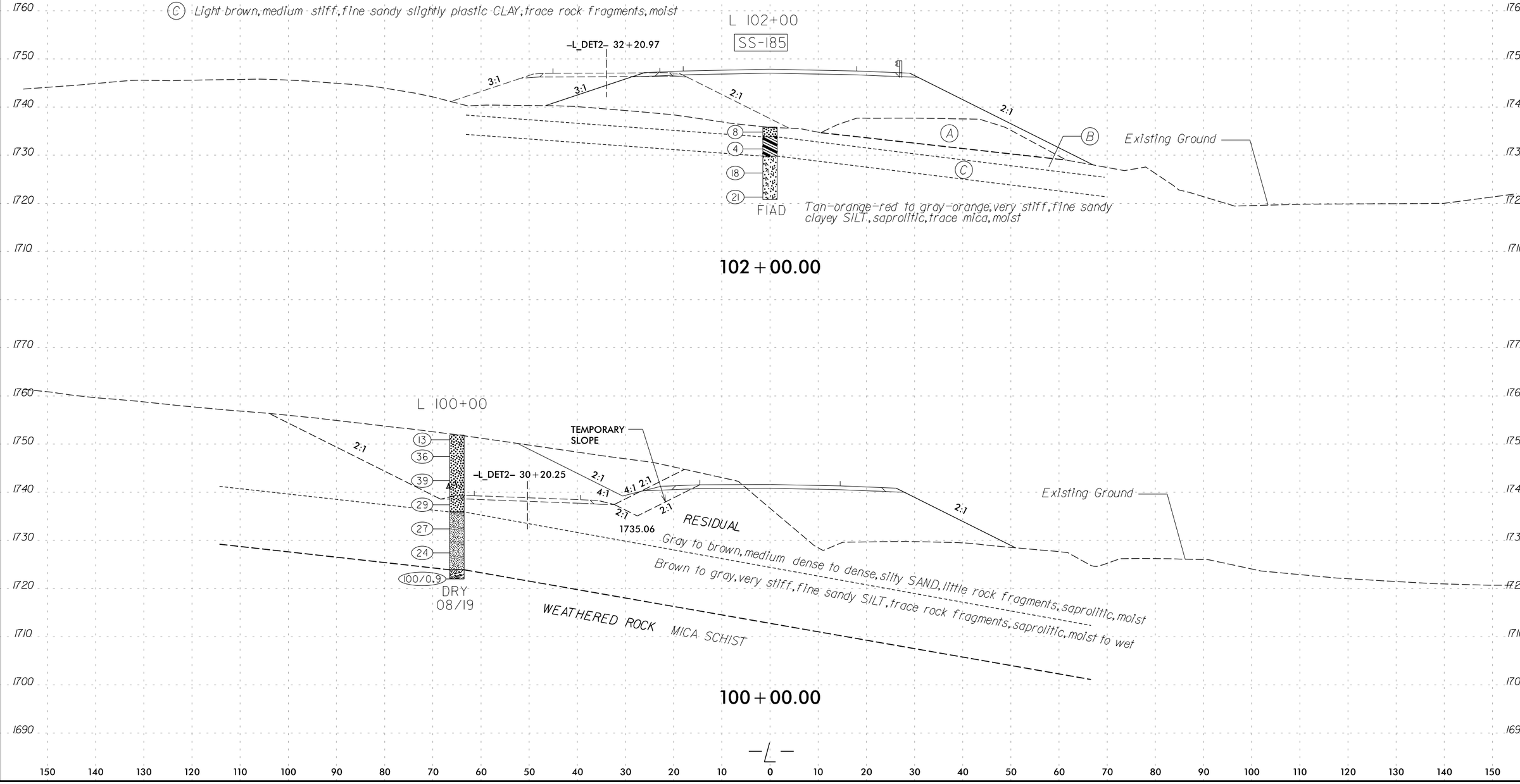
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-185	102+00	0	3.5-5.0	A-6 (9)	37	14	8	20	31	41	93	88	71.8	19.8	-

(A) ROADWAY EMBANKMENT Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist

(B) RESIDUAL Tan to brown, loose, silty fine SAND, dry

(C) Light brown, medium stiff, fine sandy slightly plastic CLAY, trace rock fragments, moist



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1800 1790 1780 1770 1760 1750 1740 1730 1720 1710

(A) *RESIDUAL* Gray-brown, stiff, clayey fine sandy SILT, saprolitic, trace roots, moist

(B) Gray-brown, dense to very dense, silty fine SAND, saprolitic, trace rock fragments, moist

L 104+00

12
49
91
100/0.8
100/0.5
100/0.5

DRY
08/19

2:1

4:1

4.03:1

-L_DET2- 34+22.51

2:1

Existing Ground

WEATHERED ROCK MICA SCHIST

104+00.00

(A) *ROADWAY EMBANKMENT* Gray, stiff, fine sandy SILT, some gravel, moist

-L_DET2- 33+21.7

2:1

4.03:1

2:1

4:1

2:1

DRI2 10+50
102+90

Existing Ground

RESIDUAL
Brown-red, soft, clayey SILT, moist

Gray, medium stiff, silty CLAY, moist

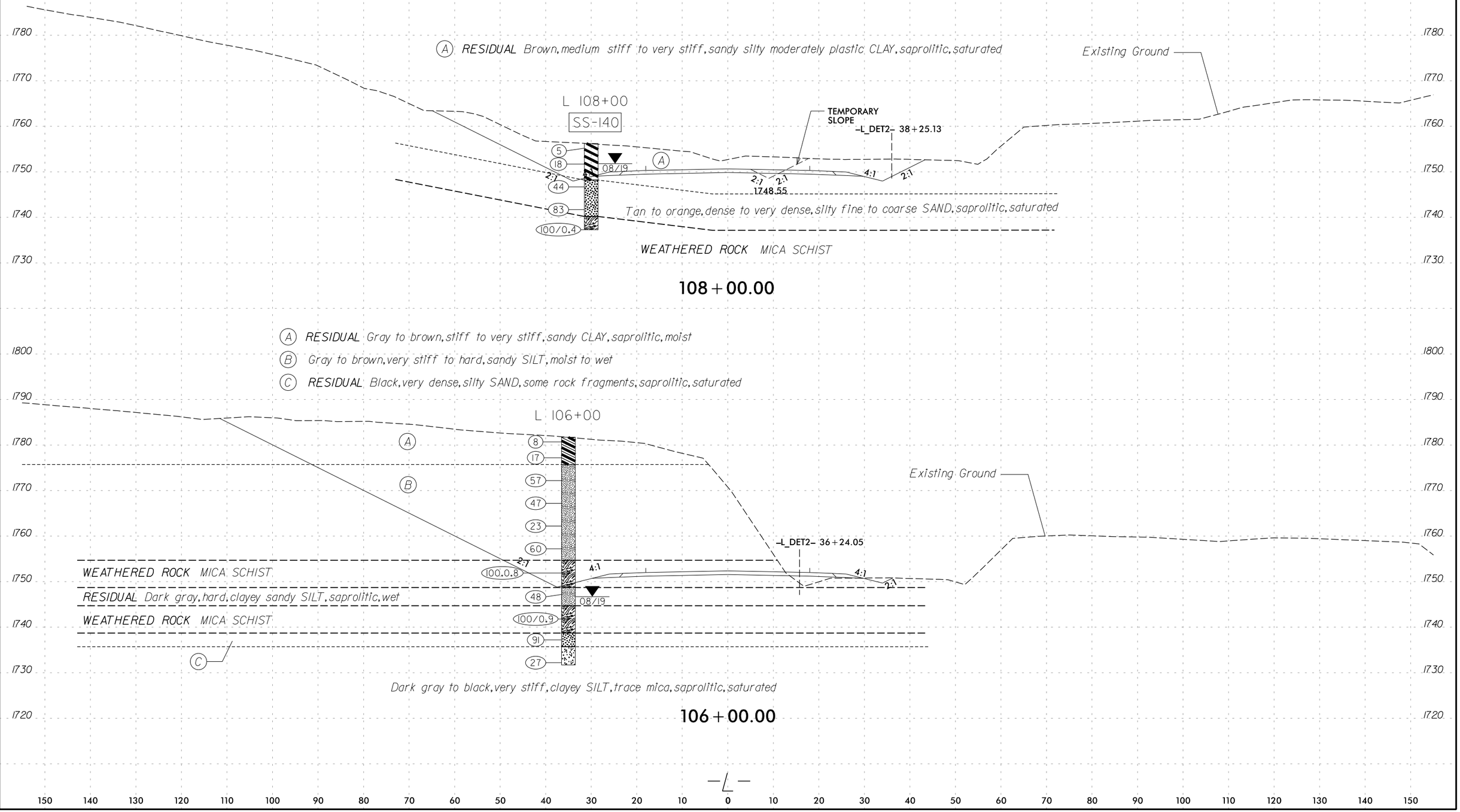
10
2
6

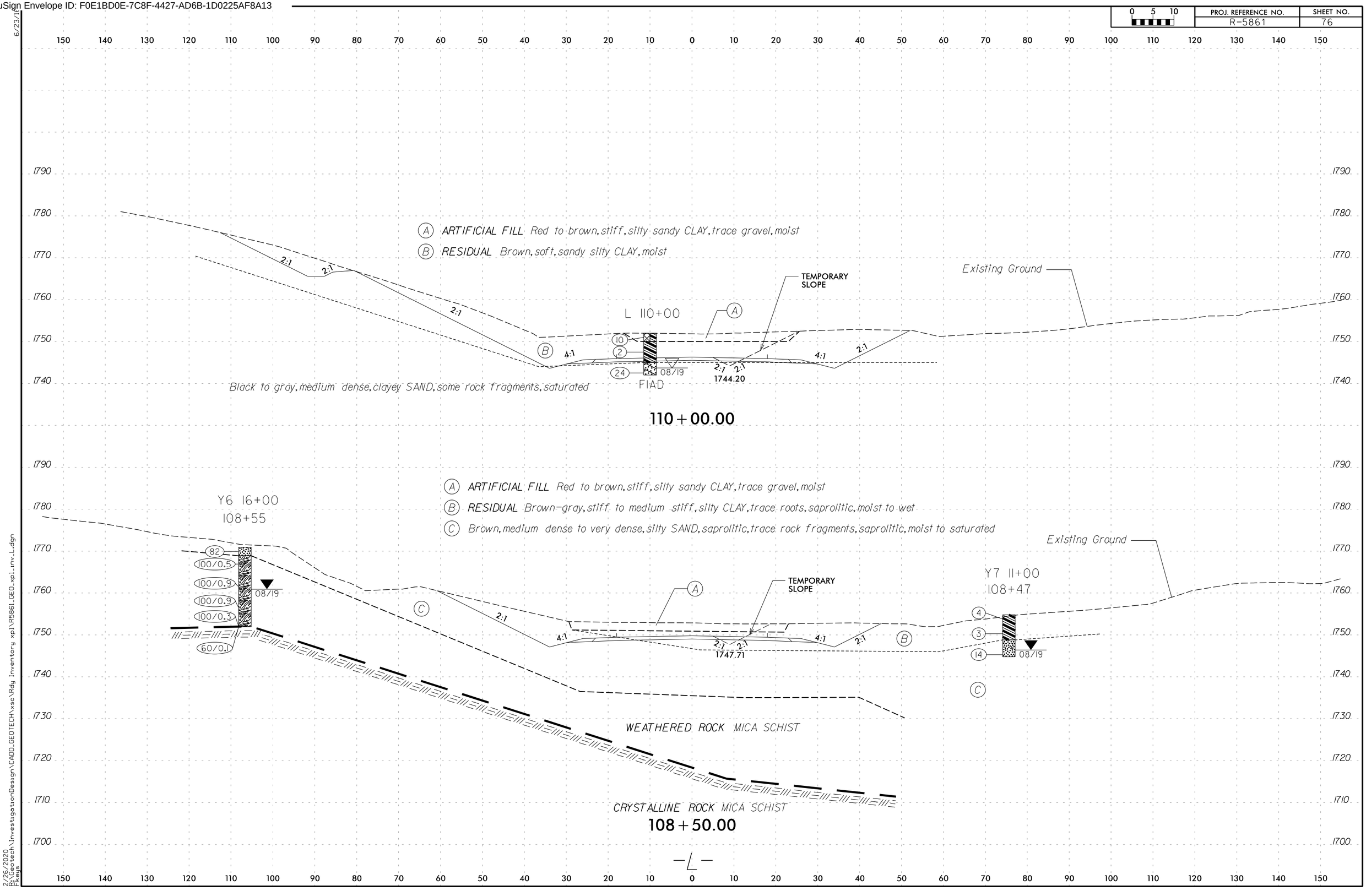
DRY
08/19

103+00.00

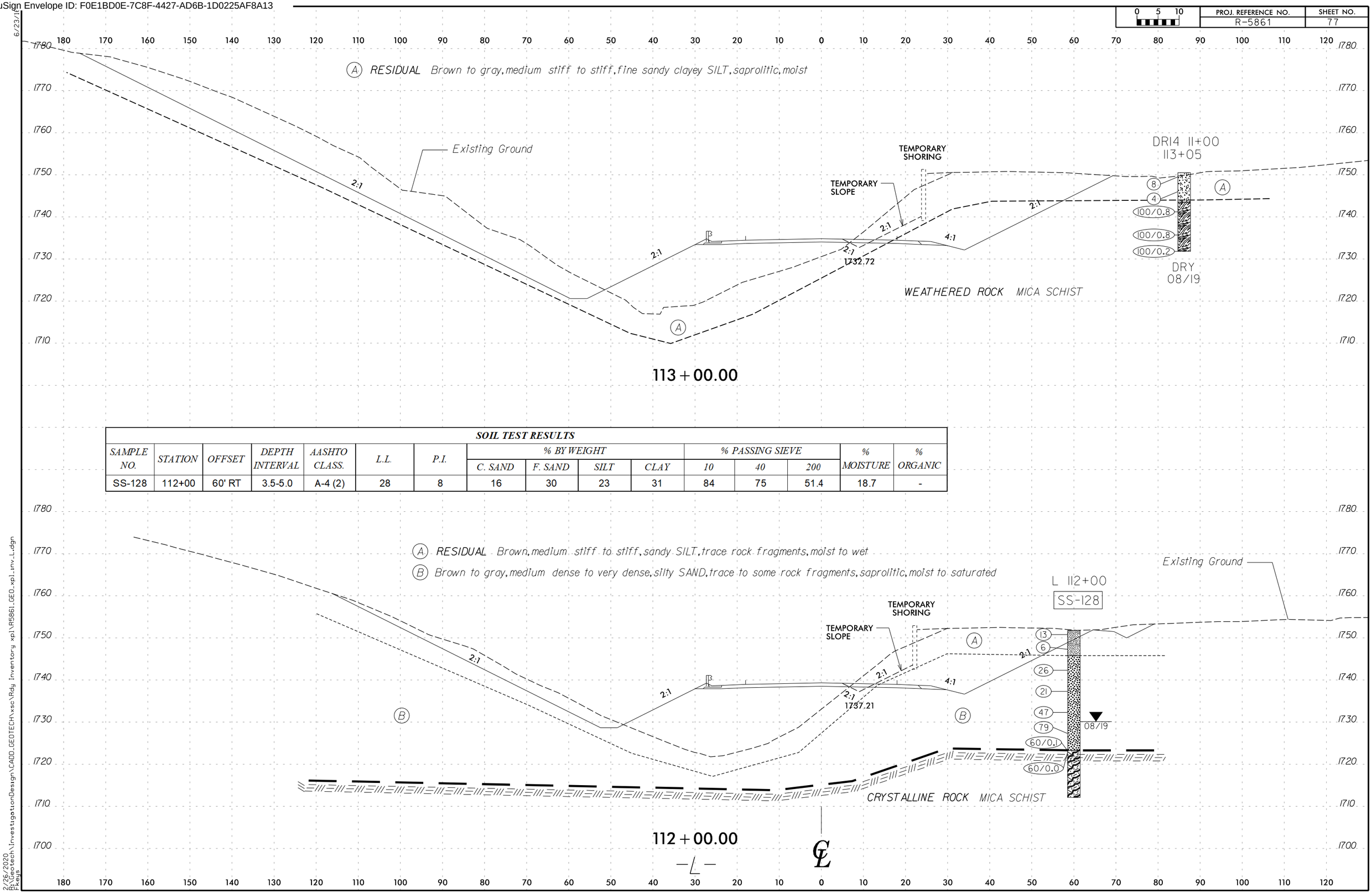
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-140	108+00	30' LT	0.0-1.5	A-7-6 (18)	44	19	2	16	31	51	100	99	86.9	27.4	-





PROJ. REFERENCE NO.	SHEET NO.
R-5861	77

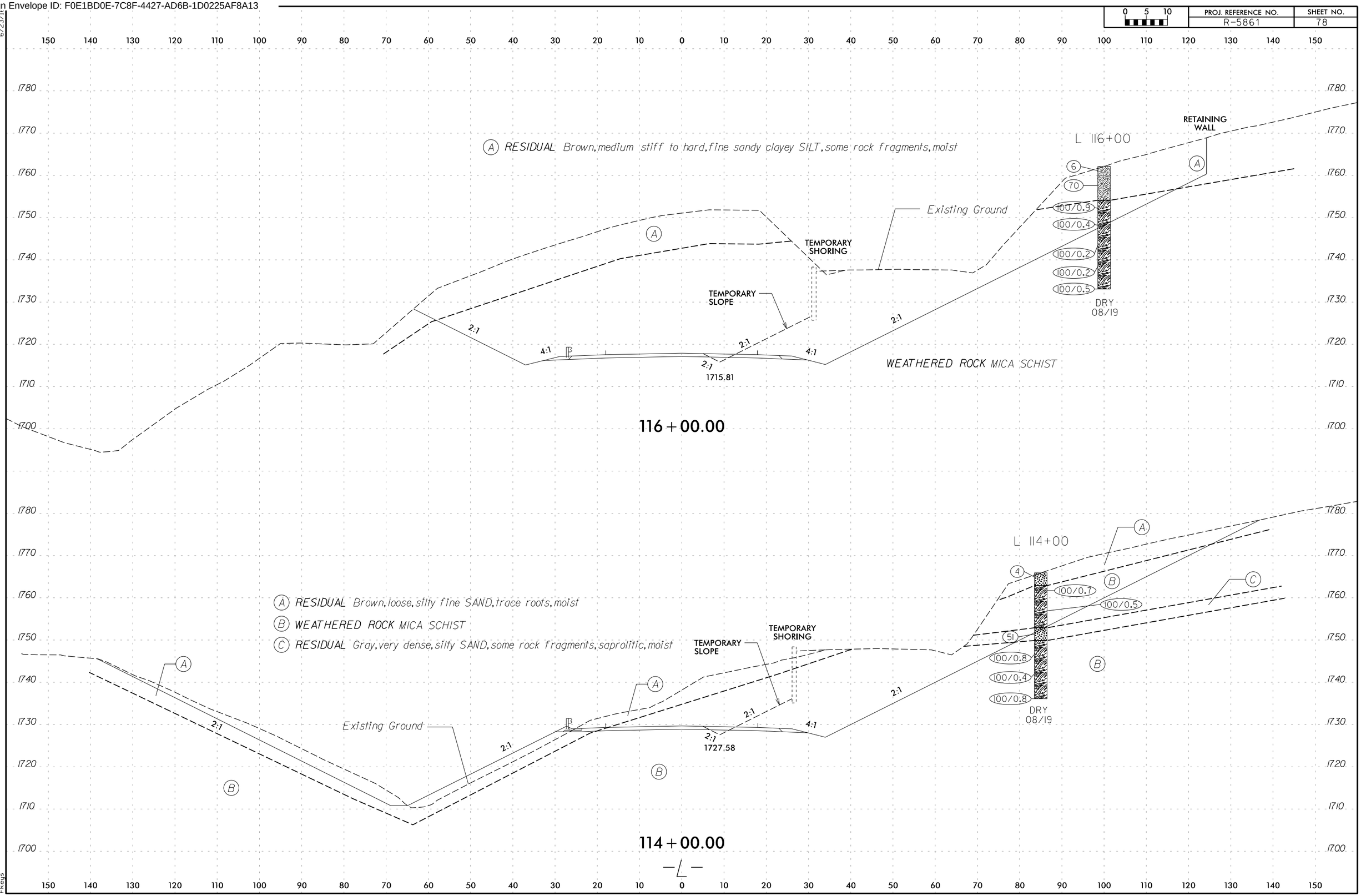


SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-128	112+00	60' RT	3.5-5.0	A-4 (2)	28	8	16	30	23	31	84	75	51.4	18.7	-

PROJ. REFERENCE NO.	SHEET NO.
R-5861	78

0 5 10



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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	79

6/23/15

(A) ROADWAY EMBANKMENT Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist

(B) RESIDUAL Red to brown, stiff to very stiff, clayey sandy SILT, saprolitic, moist

(C) Brown to black, very dense, silty SAND, trace rock fragments, saprolitic, saturated

TEMPORARY SLOPE

2:1

2:1

2:1

4:1

1691.77

1.5:1

L 120+00

Existing Ground

(A)

(B)

(C)

9

25

65

100/0.8

100/0.9

100/0.6

66

07/19

WEATHERED ROCK BIOTITE SCHIST

RESIDUAL Brown, black, hard, clayey fine sandy SILT, trace mica, saprolitic, saturated

120+00.00

(A) RESIDUAL Brown, soft, clayey fine sandy SILT, moist

(B) WEATHERED ROCK MICA SCHIST

L 118+00

2

100/0.7

100/0.4

100/0.8

100/0.2

100/0.4

60/0.1

AR FIAD

Existing Ground

TEMPORARY SHORING

TEMPORARY SLOPE

2:1

4:1

2:1

4:1

2:1

1703.82

CRYSTALLINE ROCK MICA SCHIST

118+00.00

—L—

2/26/2020
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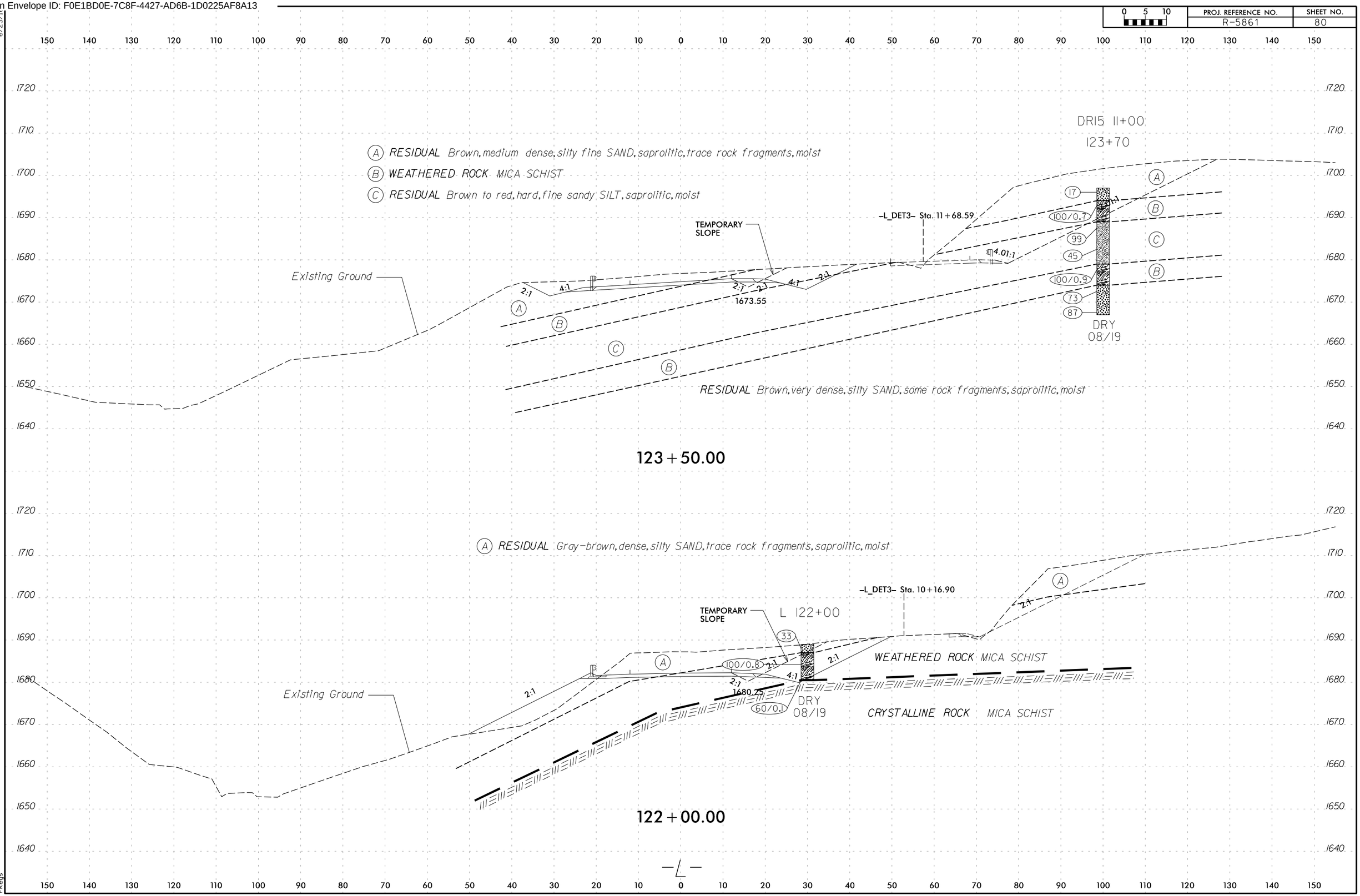
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	80



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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1690 1680 1670 1660 1650 1640 1630 1620 1610

(A) *ROADWAY EMBANKMENT* *Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist*

(B) *RESIDUAL* *Brown to brown-gray, medium stiff to stiff, silty CLAY, trace wood, moist*

–L_DET3– Sta. 14+26.10

Existing Ground

2:1 2:1 2:1 2:1 2:1

L 126+00

(5) (9) (7) (13) (13) (30) (39)

07/19

(B)

(A)

LDET3 14+26
126+01

(5) (16) (4) (22) (37) (51) (40)

08/19

RESIDUAL *Gray to orange, clayey sandy SILT, trace mica, some rock fragments, saprolitic, moist to saturated*

126+00.00

(A) *RESIDUAL* *Brown, stiff, fine sandy SILT, trace mica, saprolitic, moist*

–L_DET3– Sta. 12+20.11

Existing Ground

L 124+00

2:1 4:1 4:1 2:1 2:1 4.01:1 4.01:1 2:1

(8) (22) (75)

DRY
07/19

(A)

Brown, medium dense to very dense, silty clayey fine to coarse SAND, trace rock fragments, saprolitic, moist

124+00.00

–L–

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	82

6/23/16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1710
1700
1690
1680
1670
1660
1650
1640
1630
1620
1610

(A) ROADWAY EMBANKMENT Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist

(B) ALLUVIAL Gray to brown, soft to medium stiff, fine sandy silty slightly plastic CLAY, trace roots, moist to wet

(C) RESIDUAL Brown to brown-gray, medium stiff to stiff, silty CLAY, trace wood, moist

-L_DET3- Sta. 14+77.61

Existing Ground

2:1
2:1
2:1
2:1
2.01:1
2.01:1
3:1
3:1

(A)
(B)
(C)

RESIDUAL Gray to orange, clayey sandy SILT, trace mica, some rock fragments, saprolitic, moist to saturated

126+50.00

-L-

2/26/2020
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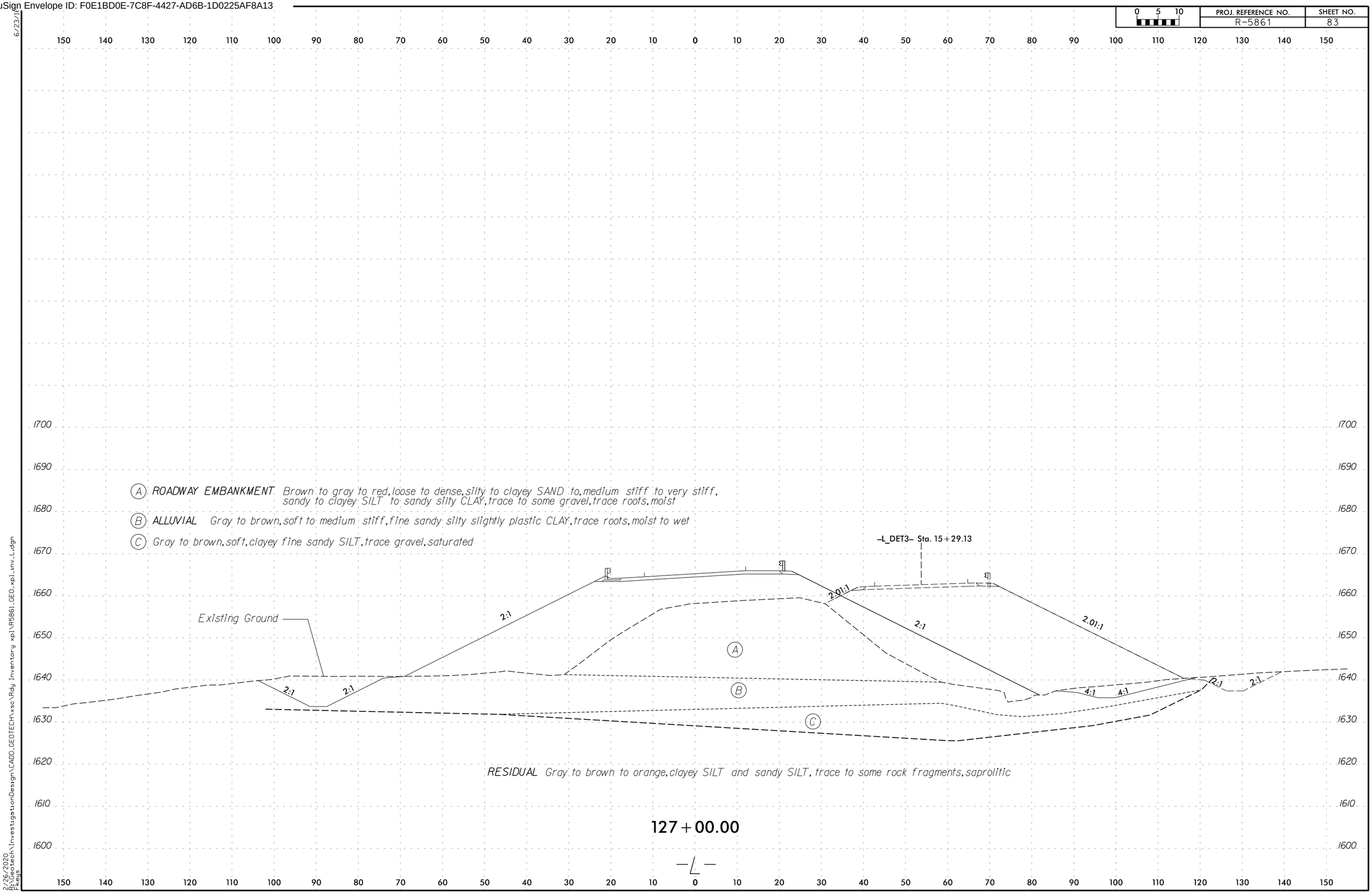
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	83



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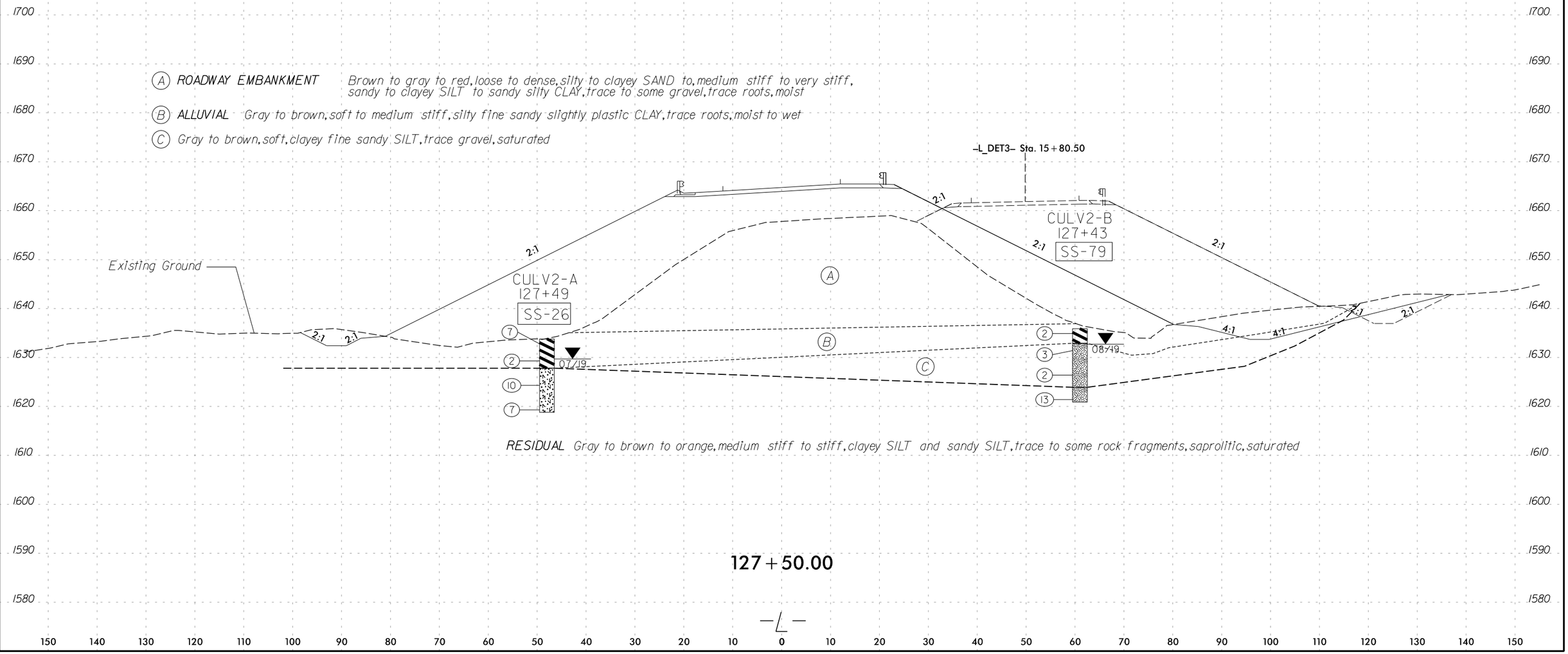
fkeys

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-26	127+49	48' LT	3.5-5.0	A-7-5 (10)	55	14	9	37	34	20	98	93	63.9	45.8	-
SS-79	127+43	61' RT	3.5-5.0	A-4 (1)	34	7	19	39	18	24	91	82	48	27.5	-



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	85

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1710 1700 1690 1680 1670 1660 1650 1640 1630 1620 1610 1600 1590

(A) *ROADWAY EMBANKMENT* *Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist*

(B) *ALLUVIAL* *Gray to brown to black, very soft to stiff, silty CLAY, trace organics, trace gravel, moist to saturated*

–L_DET3– Sta. 16+31.71

TEMPORARY SLOPE

1660.09

2:1

Existing Ground

L 128+00

LDET3 16+32
128+01

(1) (II) 07/19

(16) (11) (10) (15) (23)

(2) (II) 08/19

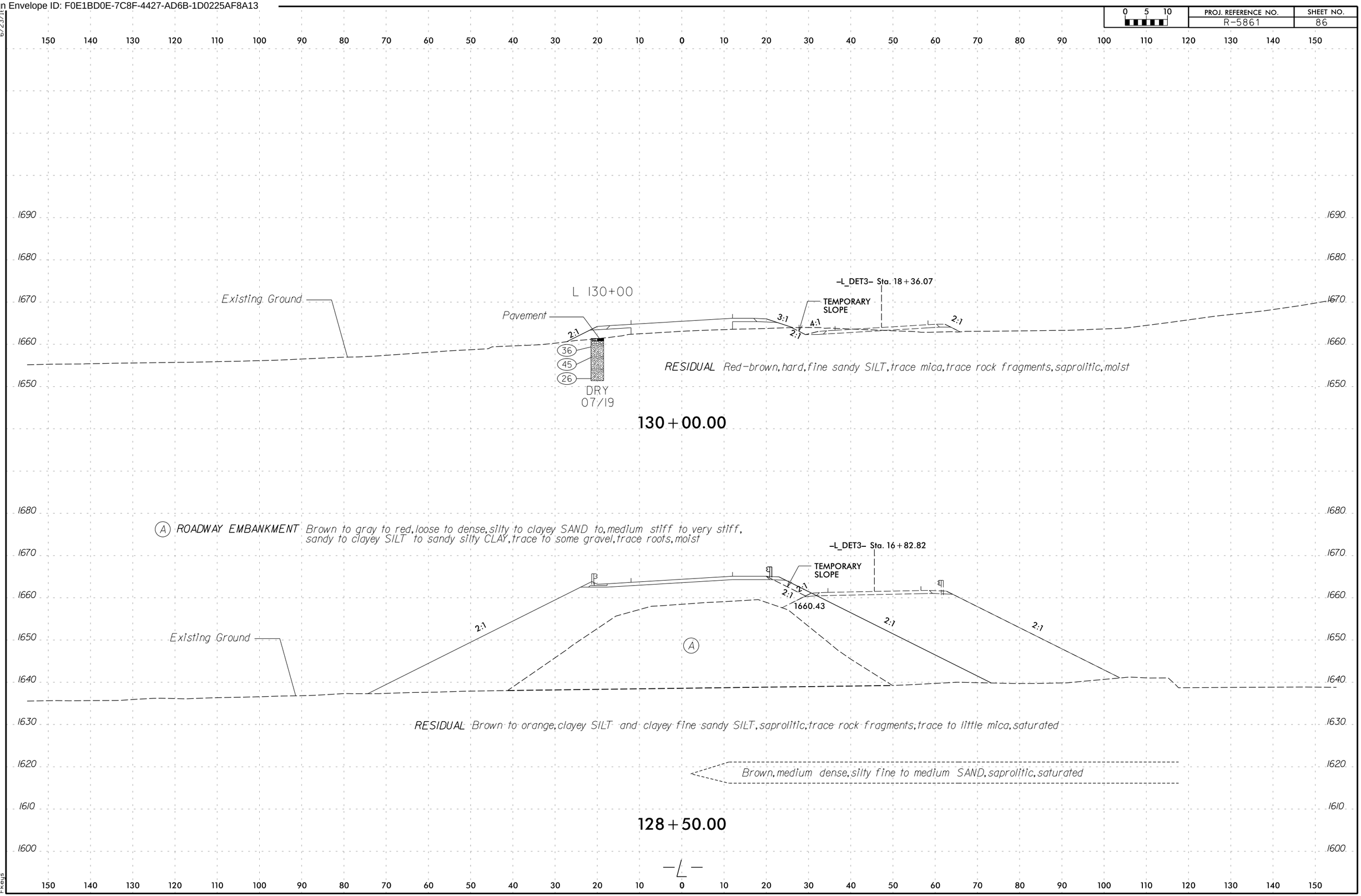
(8) (8) (28) (7) (10)

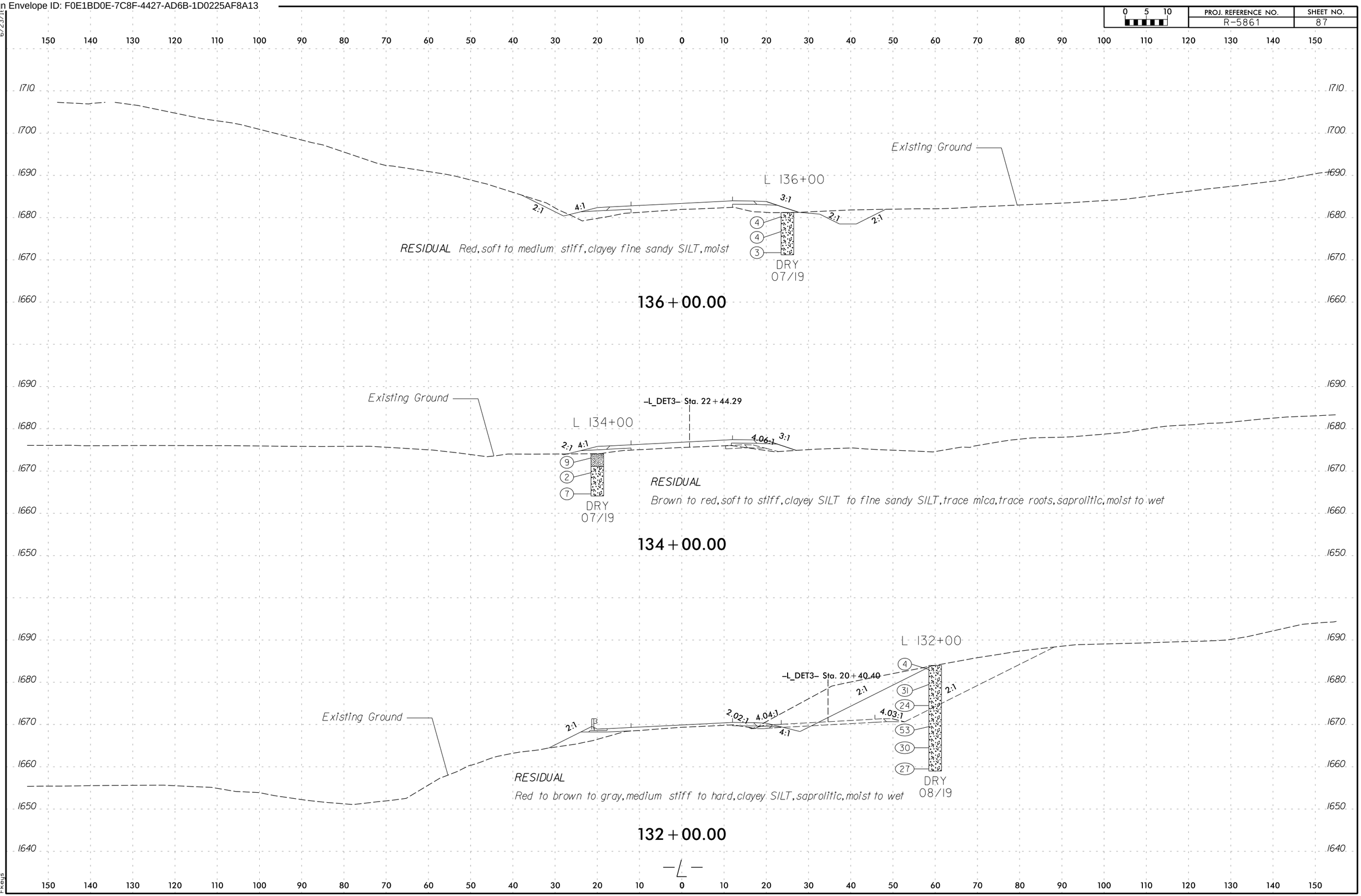
RESIDUAL *Brown, orange, clayey SILT and clayey fine sandy SILT, saprolitic, trace rock fragments, trace to little mica, saturated*

Brown, medium dense, silty fine to medium SAND, saprolitic, saturated

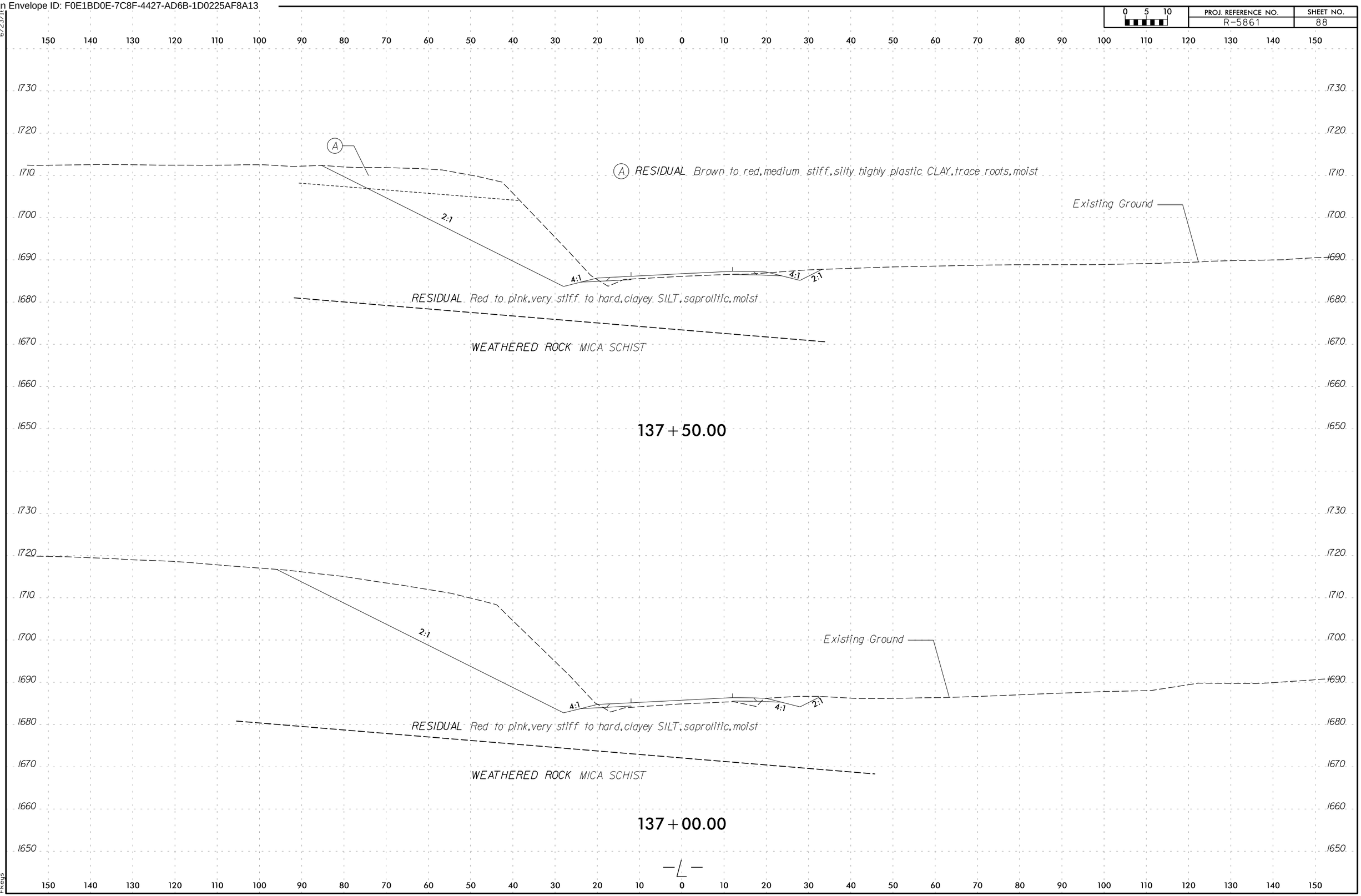
128+00.00

–L–





0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	88



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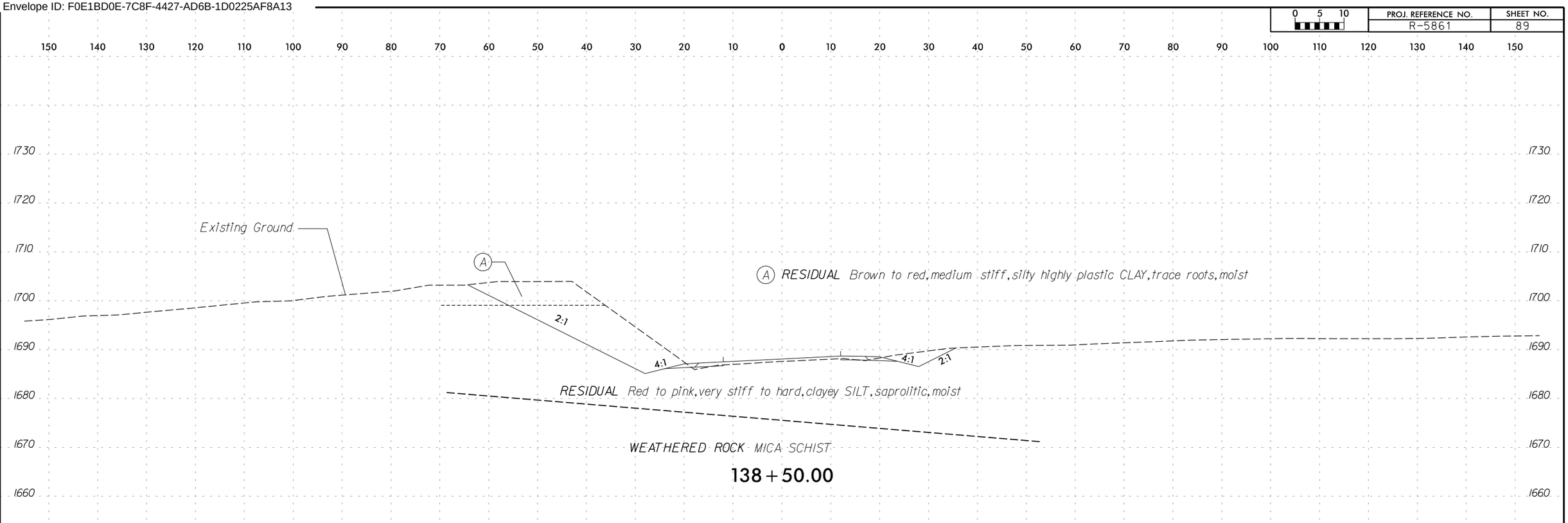
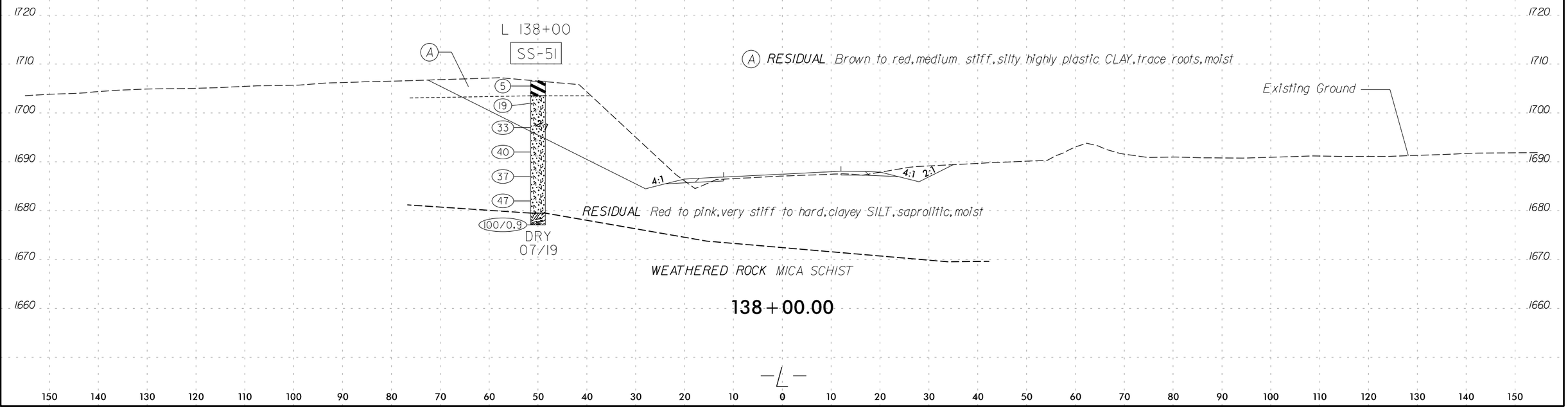
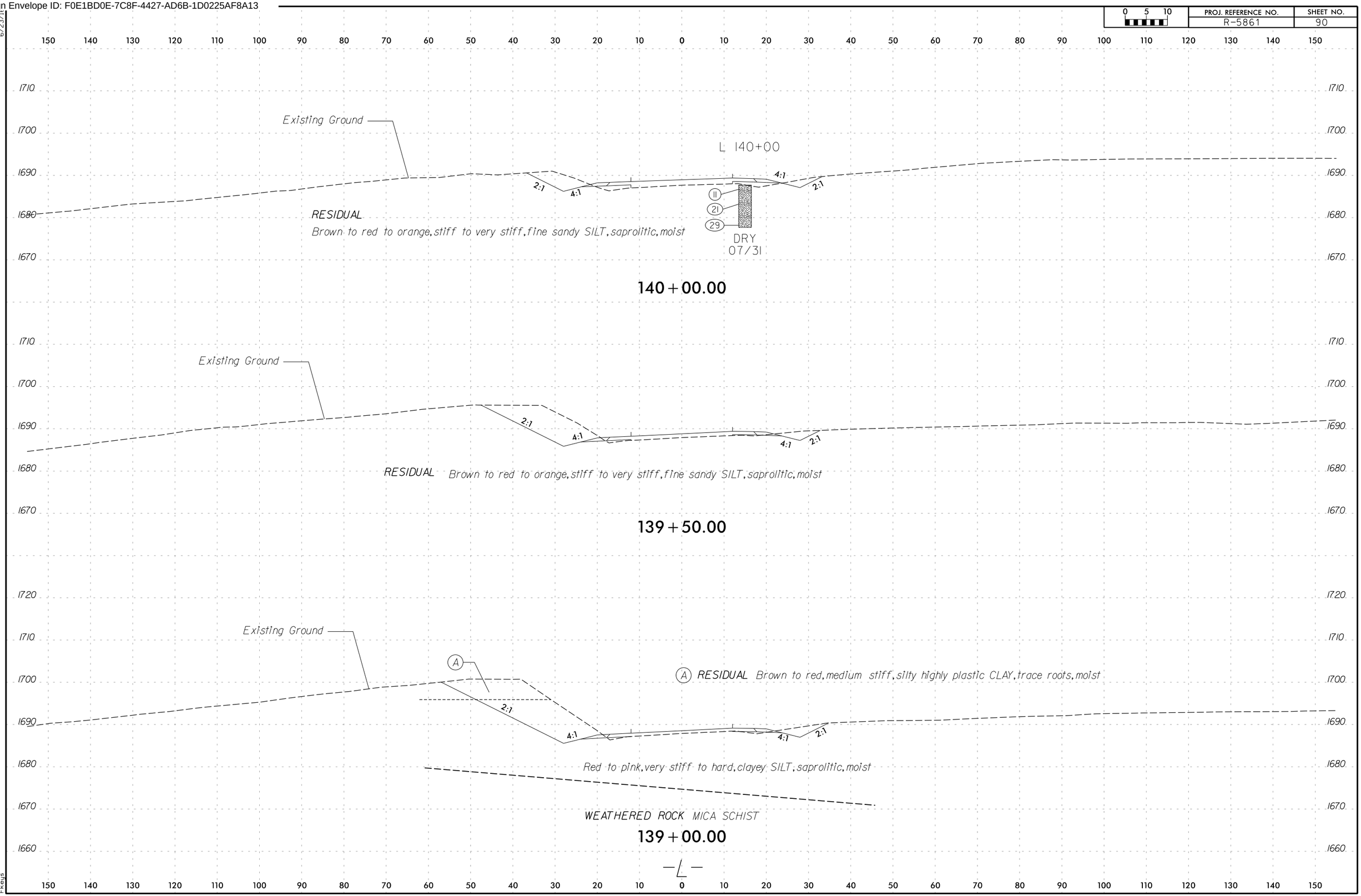
Fkeys

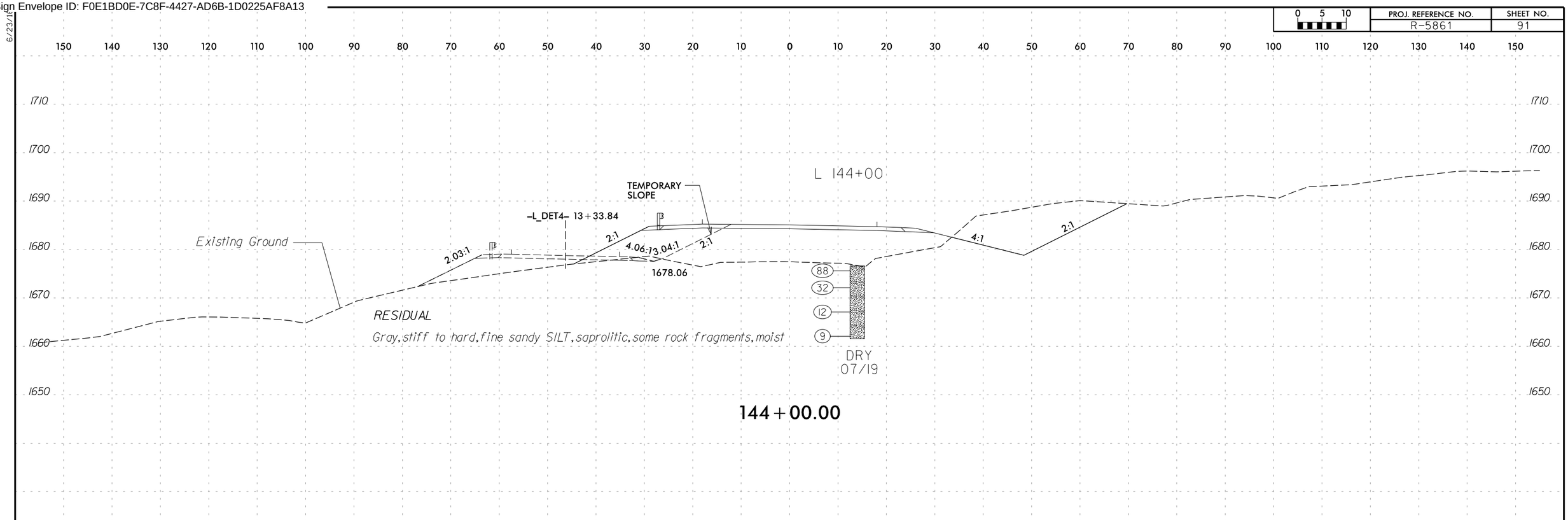


SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-51	138+00	50' LT	0.0-1.5	A-7-5 (29)	57	26	1	12	33	54	99	99	93.8	30	-

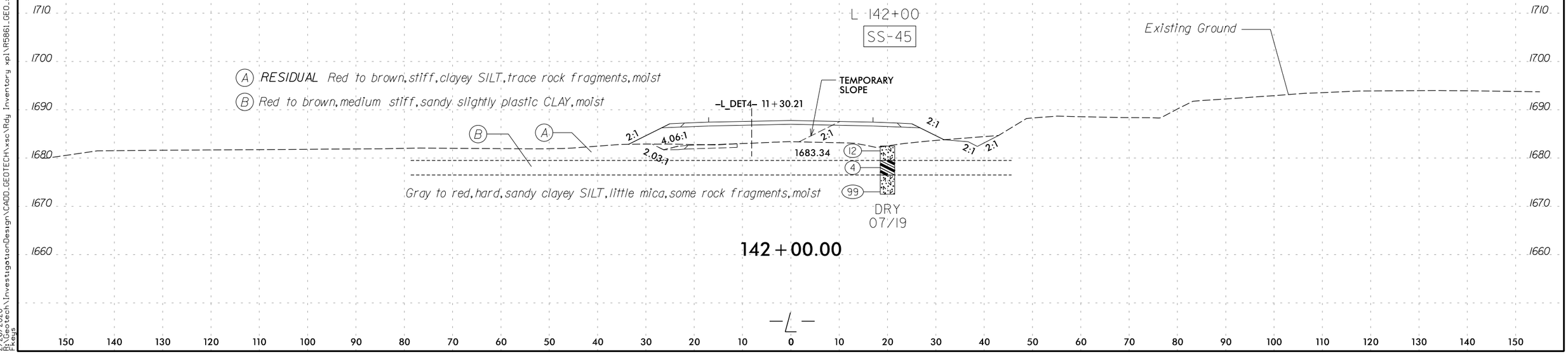


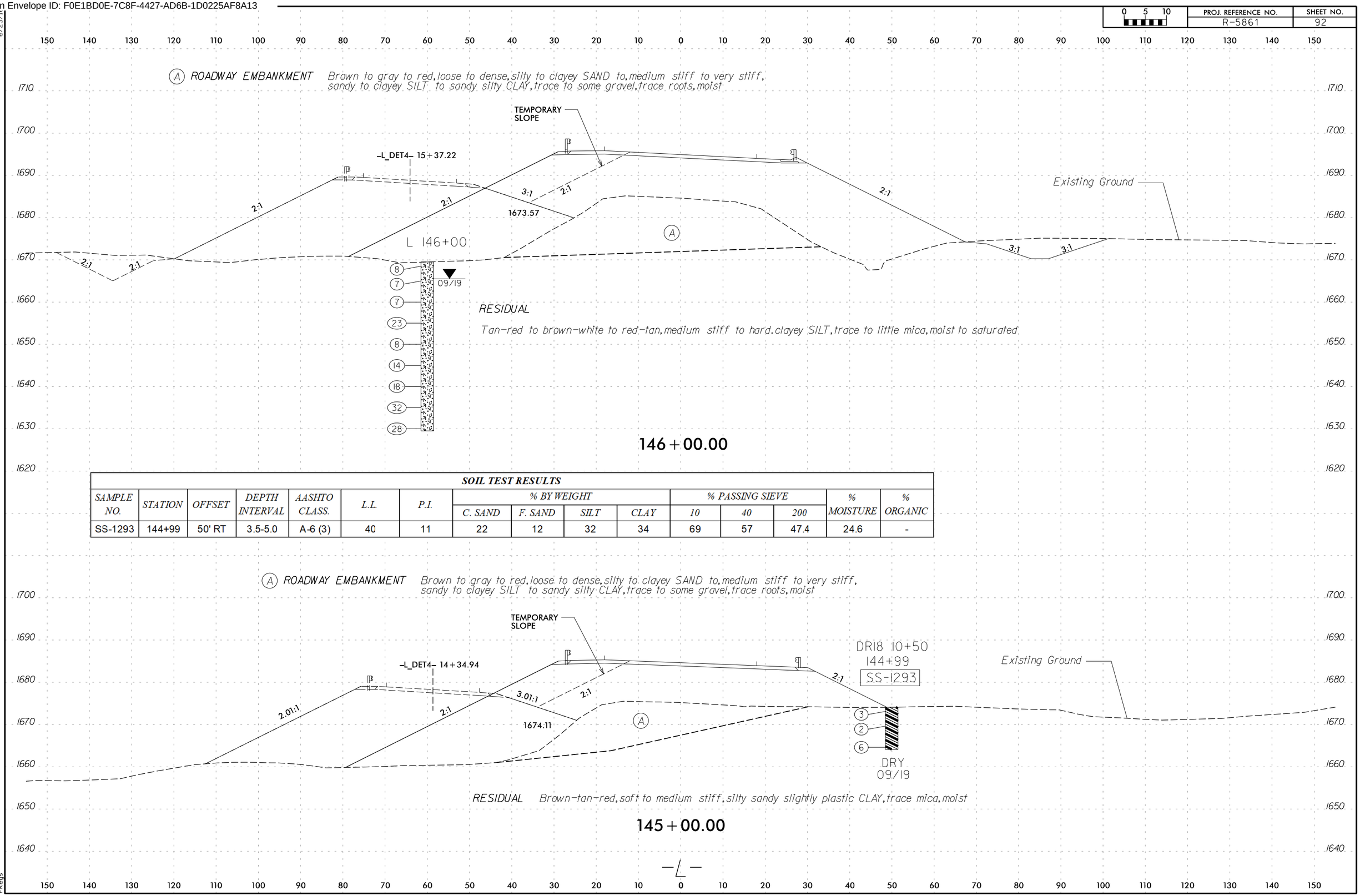




SOIL TEST RESULTS

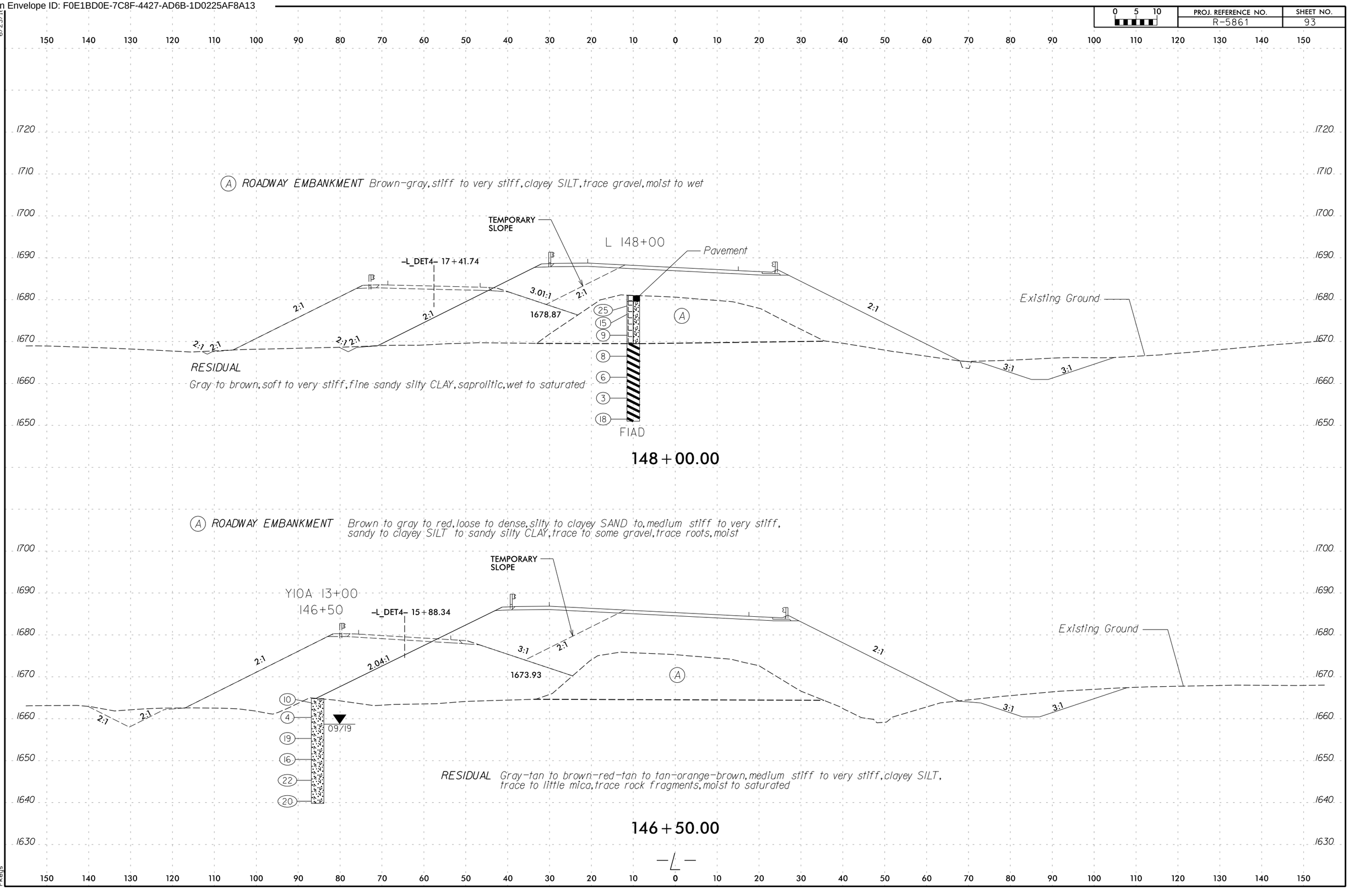
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-45	142+00	20' RT	3.5-5.0	A-6 (4)	38	11	26	17	30	27	85	67	53	20.5	-





SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1293	144+99	50' RT	3.5-5.0	A-6 (3)	40	11	22	12	32	34	69	57	47.4	24.6	-



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1730 1720 1710 1700 1690 1680 1670 1660 1650

LDET4 19+46

100/0.8

100/0.8

09/19

(A) WEATHERED ROCK MICA SCHIST

1:8:1

2:1

L_DET4 19+45.77

100/0.7

4.02:1

4:1

3.01:1

4.02:1

2:1

2:1

2:1

(A)

Existing Ground

Caved
09/19

CRYSTALLINE ROCK MICA SCHIST

150+00.00

TEMPORARY SLOPE

L_DET4 18+43.78

2:1

2:1

2:1

2:1

2:1

3:1

1685.10

DRI9 10+50
149+12

Existing Ground

17
19
7

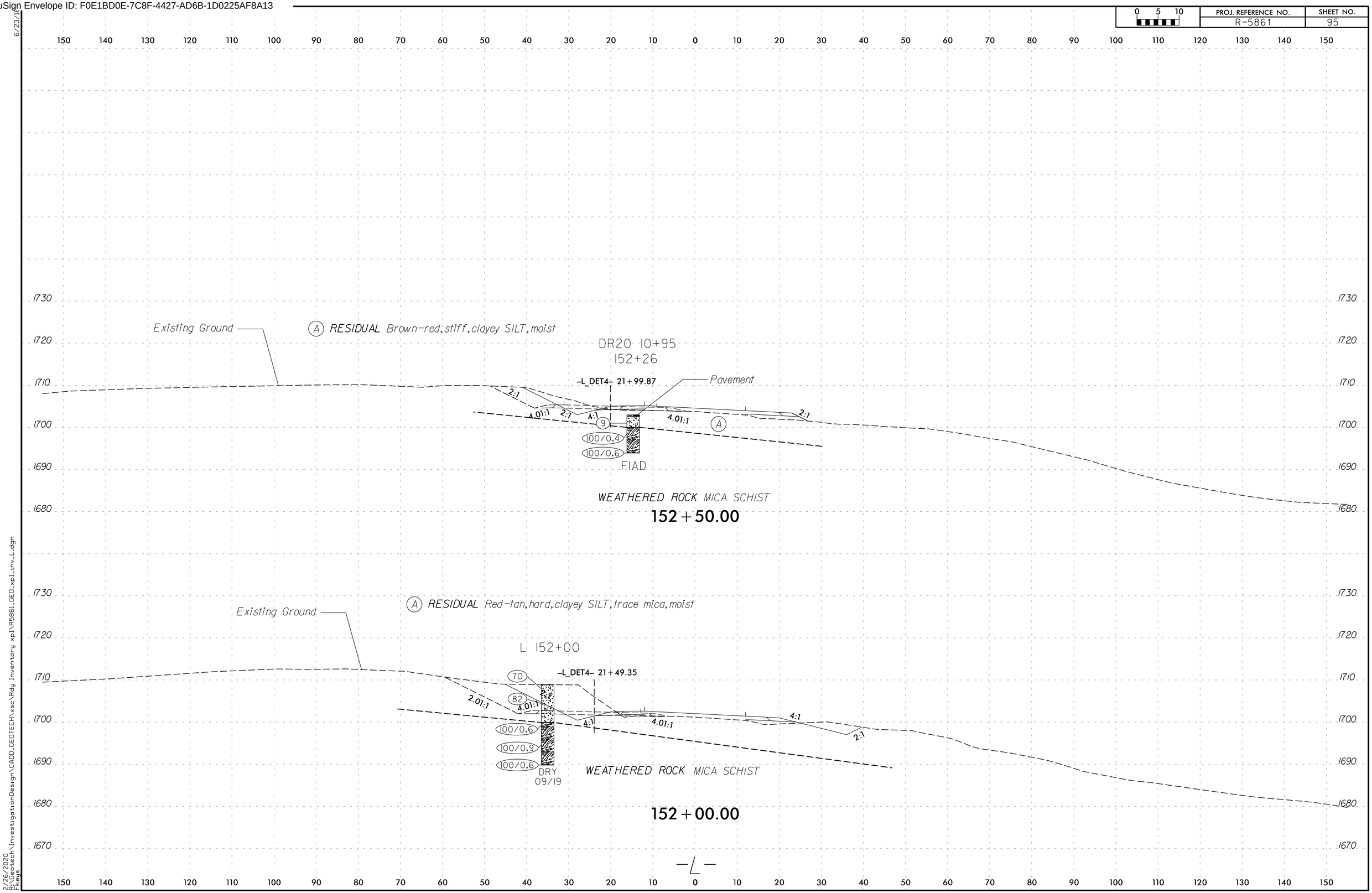
DRY
09/19

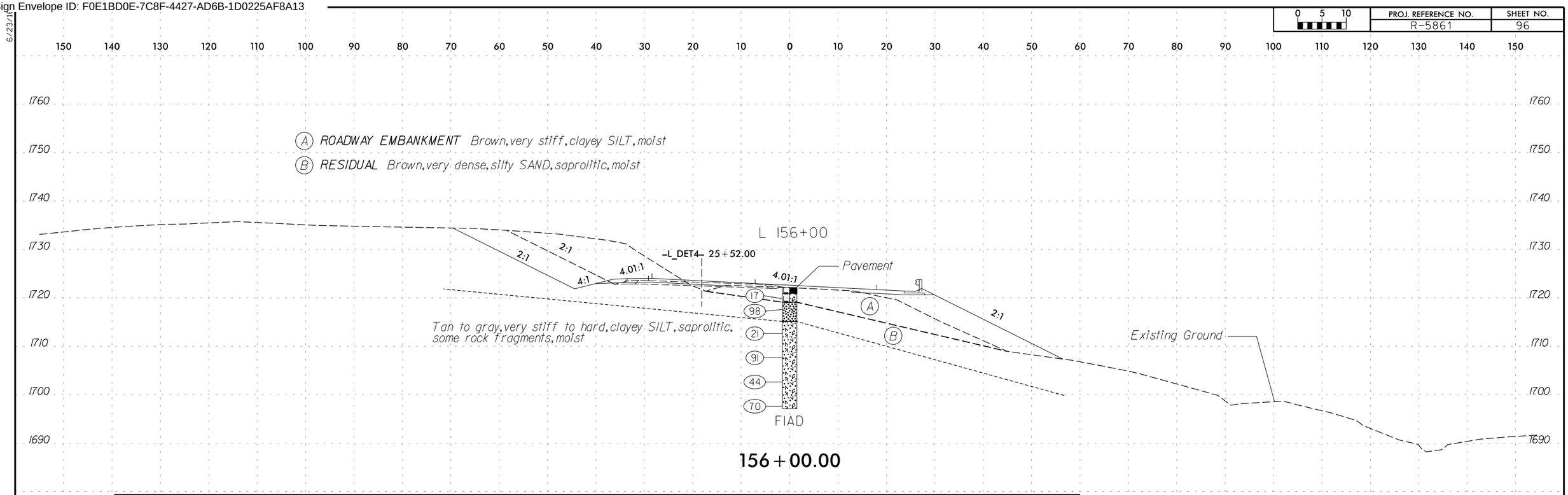
ROADWAY EMBANKMENT Tan-red-gray,very stiff,clayey SILT,little rock fragments,dry to moist

Tan-orange,medium stiff,silty CLAY,moist

149+00.00

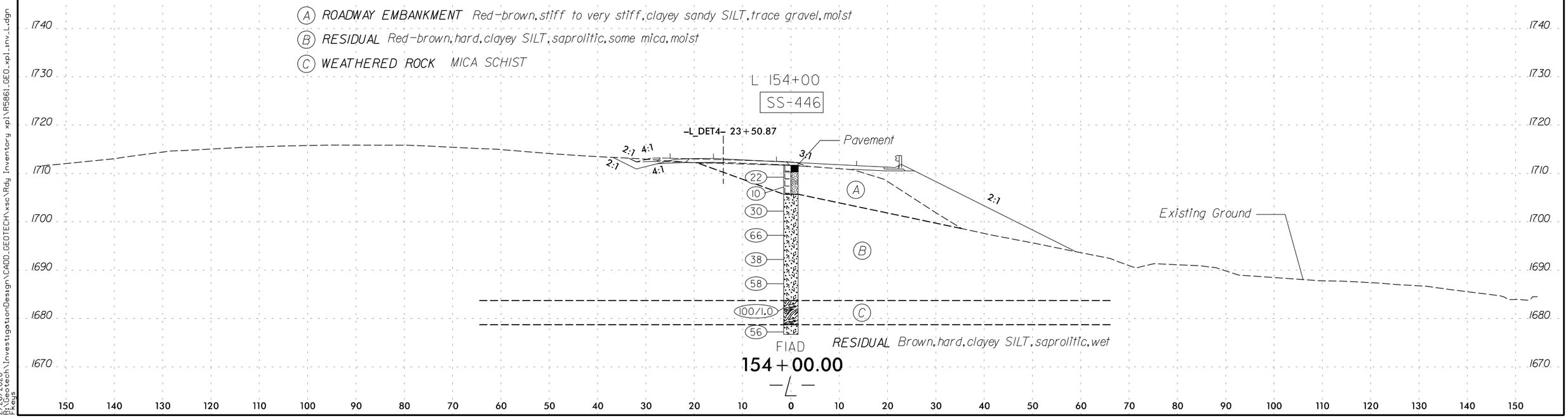
—L—





SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-446	154+00	0	1.5-3.0	A-4 (0)	33	3	34	21	27	18	92	68	46.5	13.1	-



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1770 1760 1750 1740 1730 1720 1710

Ⓐ *ROADWAY EMBANKMENT* *Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist*

TEMPORARY SLOPE

–L_DET4– 28+03.68

2.01:1 3.01:1 2:1 4:1 3.378:1 2:1 2:1

1731.87

Ⓐ

Existing Ground

RESIDUAL *Tan to red to brown, stiff to hard, clayey SILT, trace to little mica, moist*

158+50.00

Ⓐ *ROADWAY EMBANKMENT* *Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist*

TEMPORARY SLOPE

–L_DET4– 27+53.47

3:1 3:1 3.01:1 2:1 2:1 2:1 2:1

1730.02

L 158+00

Ⓐ

Existing Ground

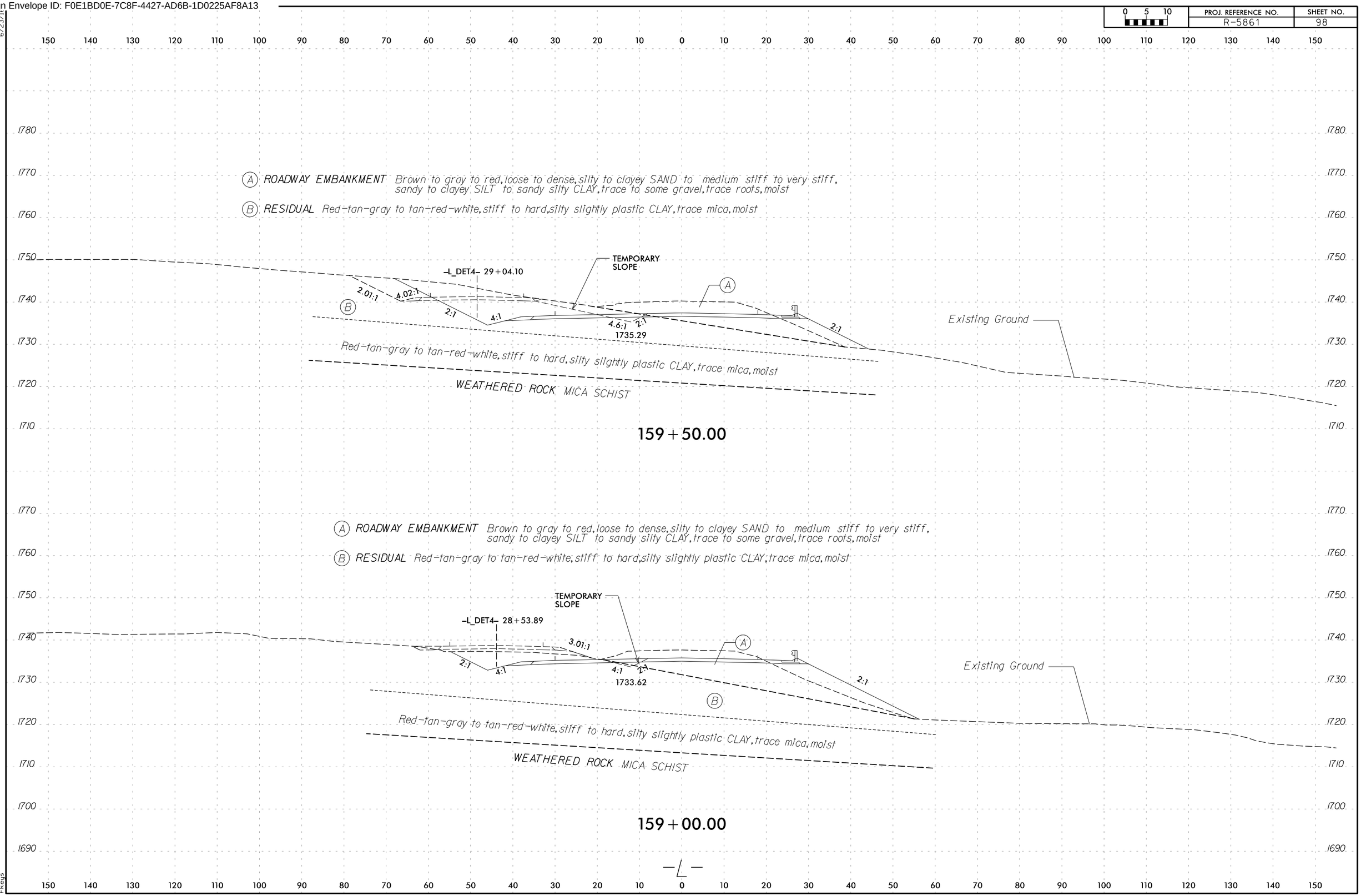
8 27 57 45 50

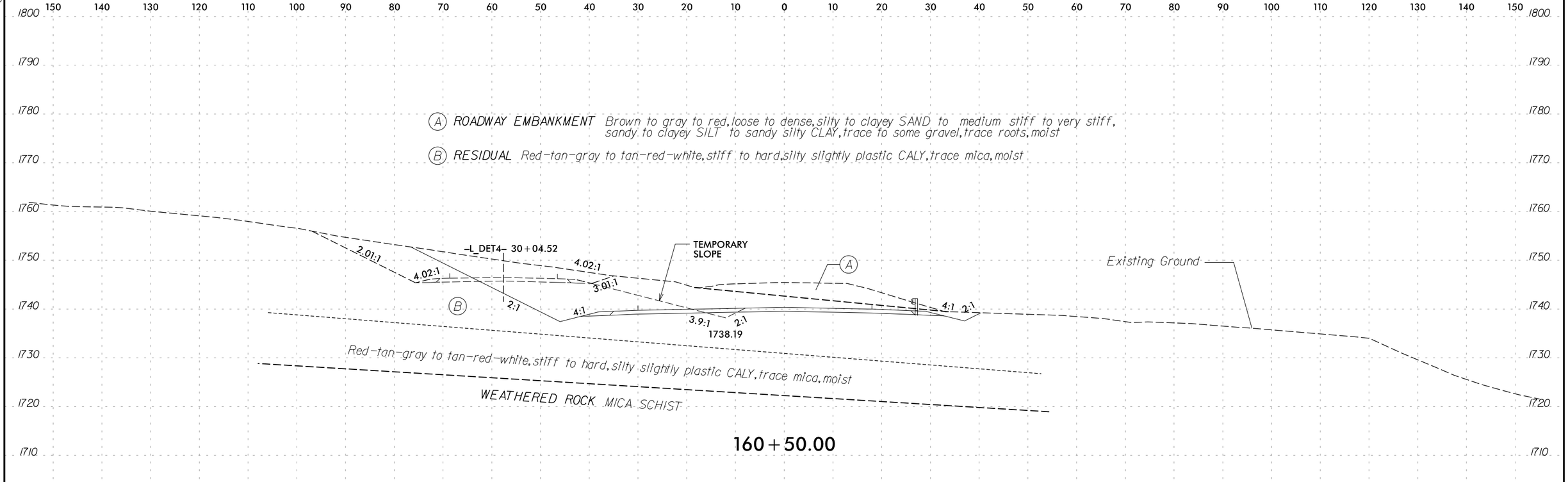
DRY 09/19

RESIDUAL *Tan to red to brown, stiff to hard, clayey SILT, trace to little mica, moist*

158+00.00

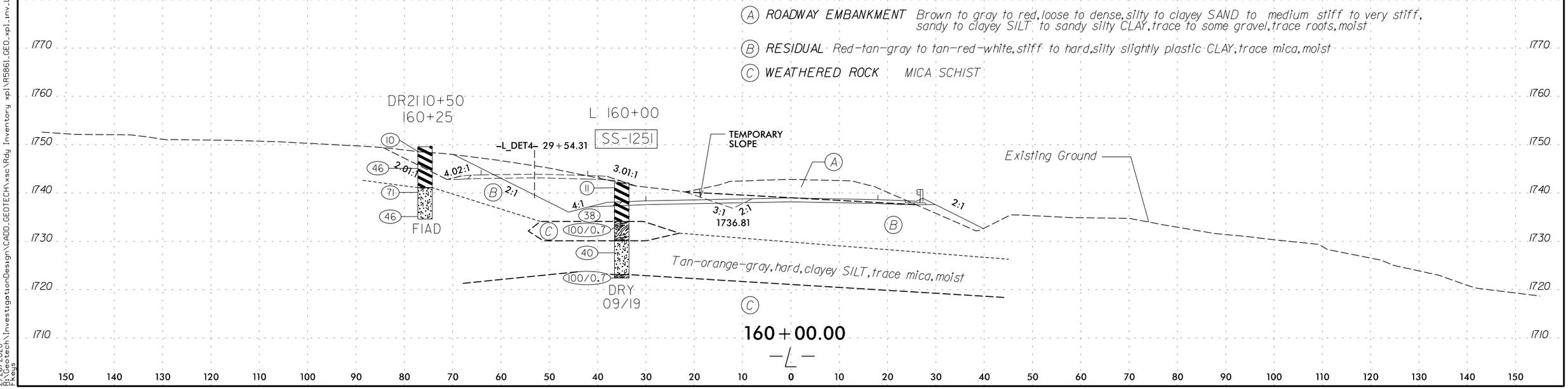
—L—

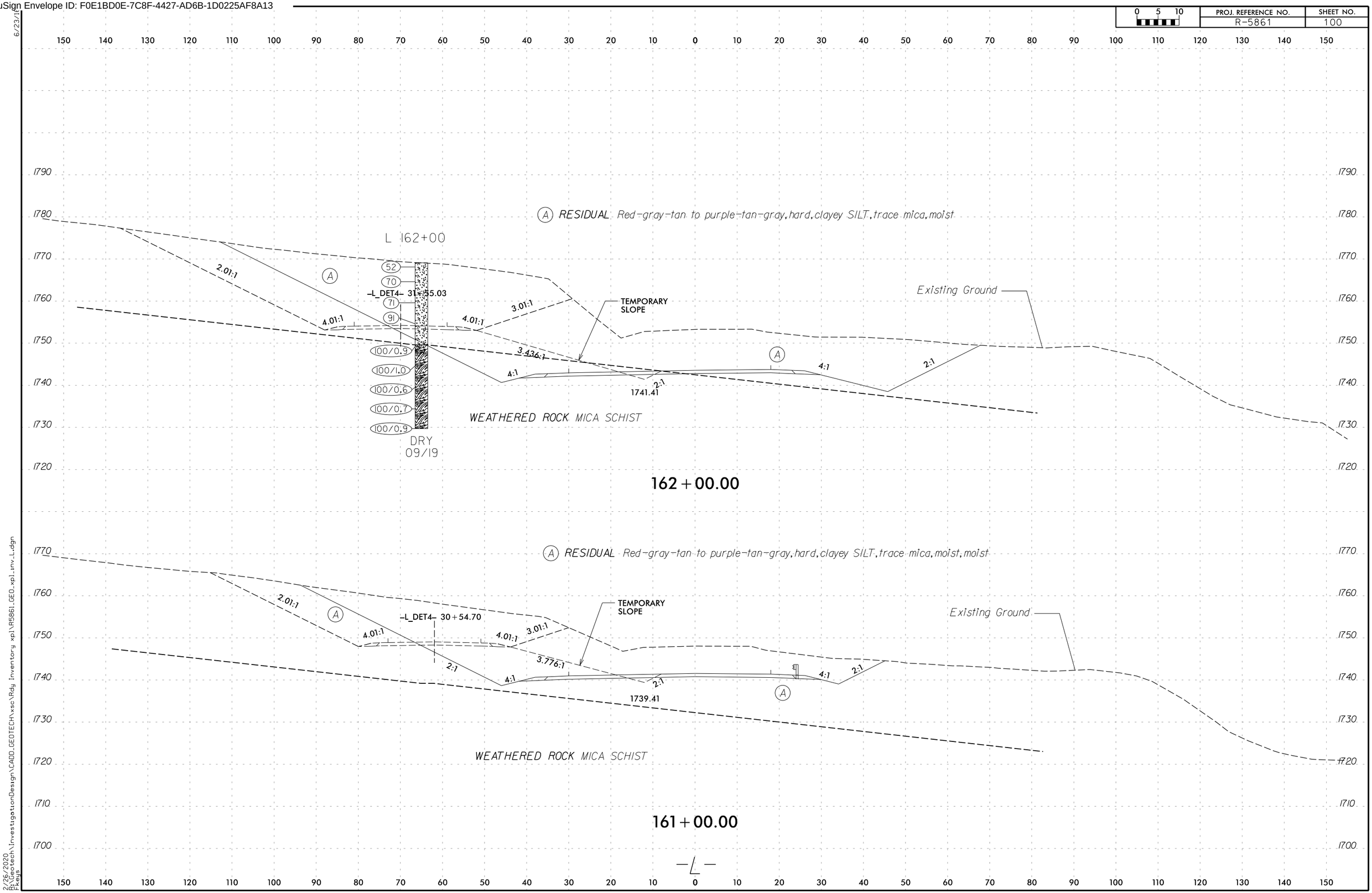




SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1251	160+00	35' LT	0.0-1.5	A-7-5 (14)	44	11	1	15	52	32	100	100	94.3	12.3	-





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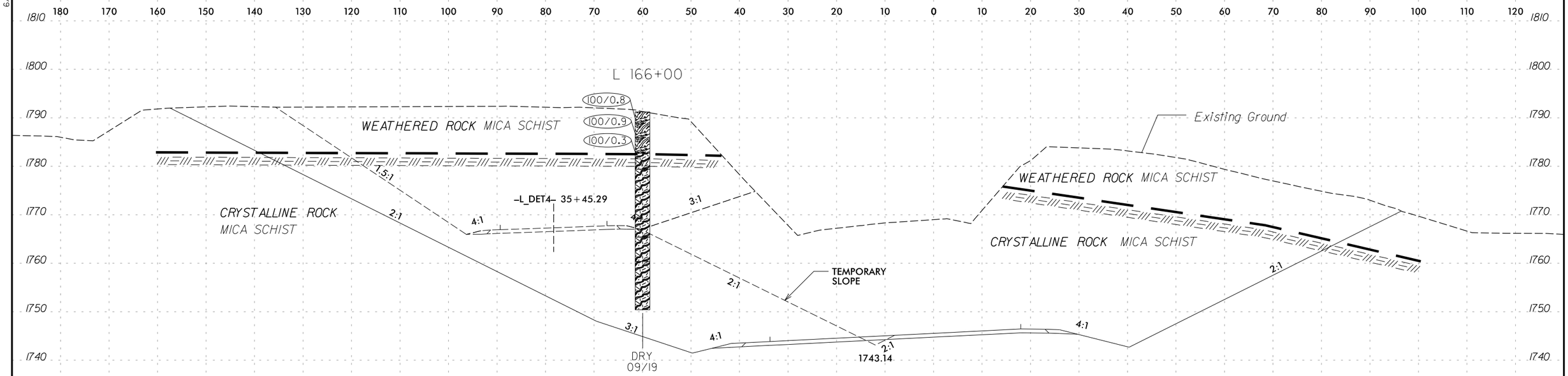
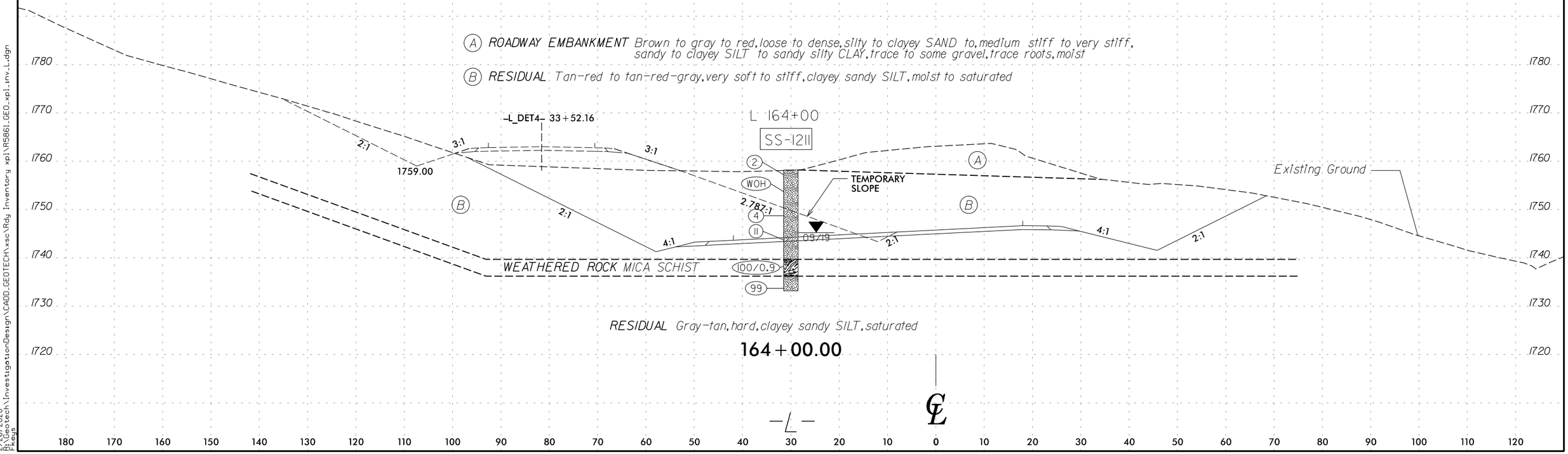
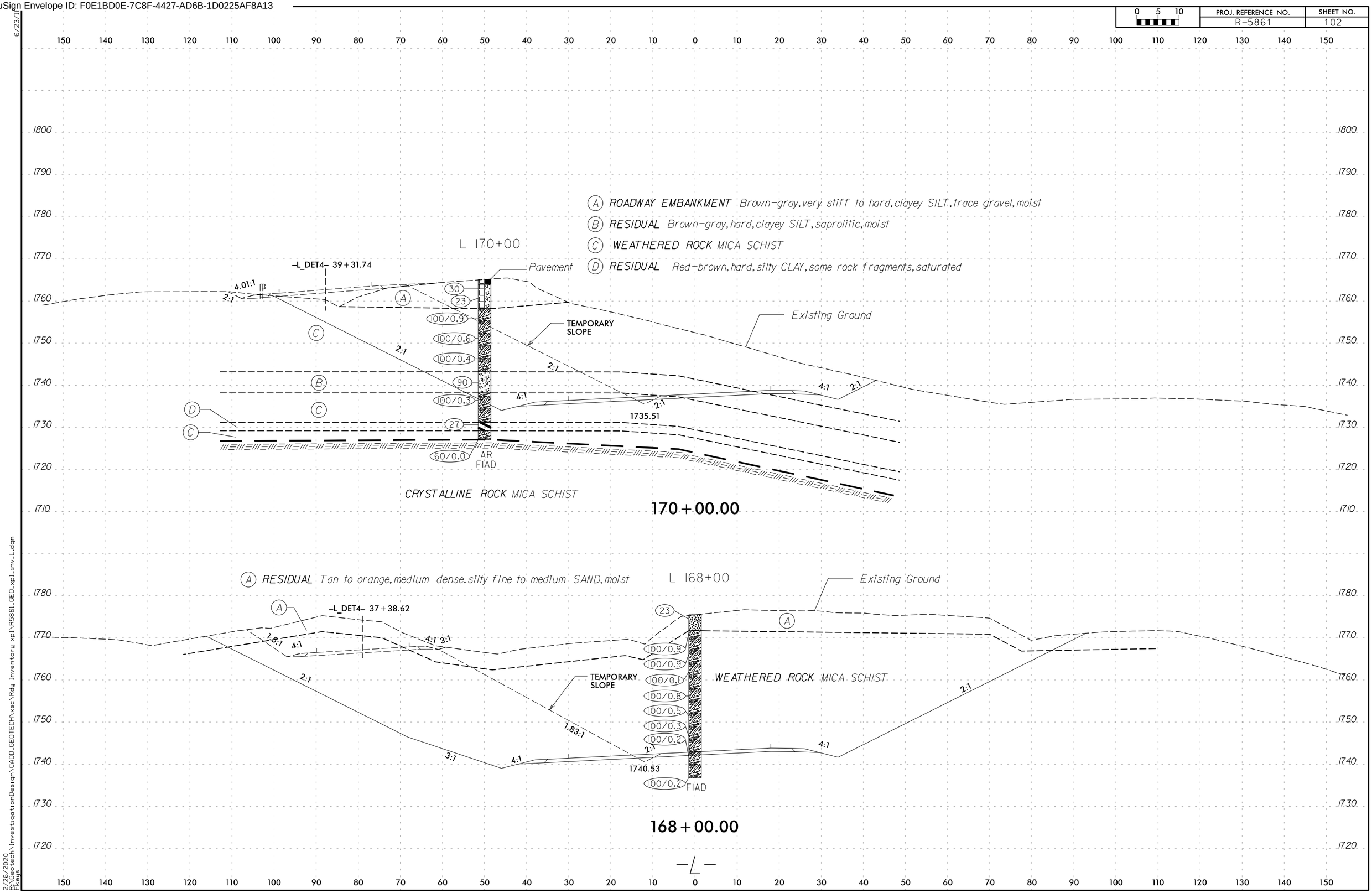


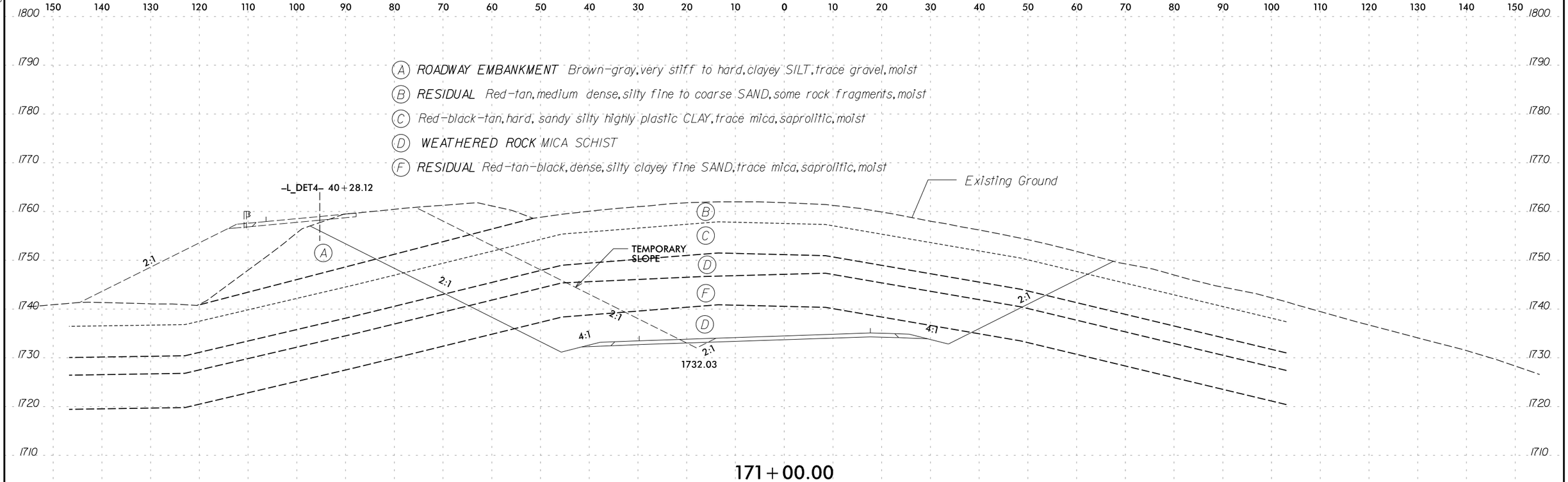
166+00.00

SOIL TEST RESULTS															
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1211	164+00	30' LT	3.5-5.0	A-4 (2)	40	6	13	28	39	20	78	71	54.5	21.9	-



164+00.00





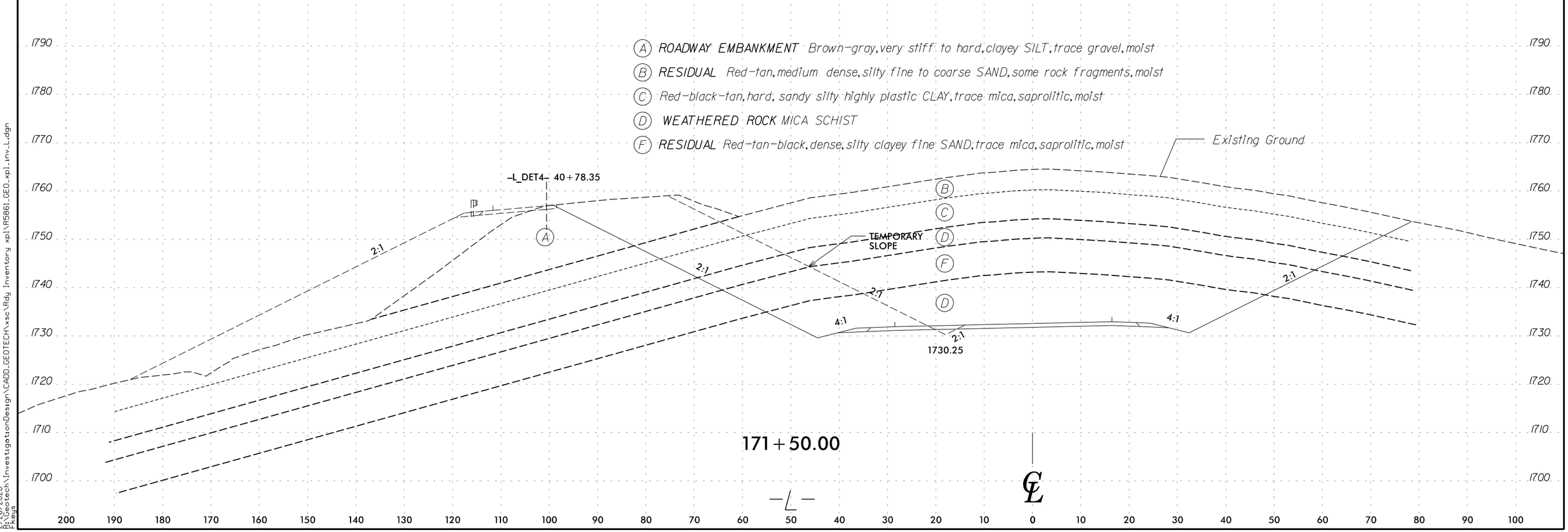
(A) ROADWAY EMBANKMENT Brown-gray, very stiff to hard, clayey SILT, trace gravel, moist

(B) RESIDUAL Red-tan, medium dense, silty fine to coarse SAND, some rock fragments, moist

(C) Red-black-tan, hard, sandy silty highly plastic CLAY, trace mica, saprolitic, moist

(D) WEATHERED ROCK MICA SCHIST

(F) RESIDUAL Red-tan-black, dense, silty clayey fine SAND, trace mica, saprolitic, moist



171+50.00

$-\not{L}-$

℄

6/23/15

200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-1159	172+00	0	2.0-8.0	A-7-5 (23)	64	31	12	32	31	25	97	89	70.8	ND	-

1810 1800 1790 1780 1770 1760 1750 1740 1730 1720 1710 1700

(A) RESIDUAL Red-tan, medium dense, silty fine to coarse SAND, some rock fragments, moist

(B) Red-black-tan, hard, sandy silty highly plastic CLAY, trace mica, saprolitic, moist

(C) WEATHERED ROCK MICA SCHIST

(D) RESIDUAL Red-tan-black, dense, silty clayey fine SAND, trace mica, saprolitic, moist

L 172+00

S-1159

Existing Ground

-L_DET4- 41+28.84

TEMPORARY SLOPE

1.83:1 2:1 2:1 4:1 2:1 4:1 2:1

1728.21

(A) 21
65
(B) 100/1.0
(C) 40
(D) 100/0.8
100/0.7
(C) 100/0.7
100/0.4
100/0.3
100/0.4
100/0.3

DRY
08/19

172+00.00

℄

2/26/2020
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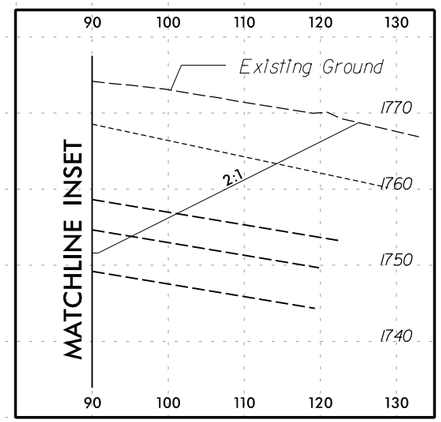
Fkeys

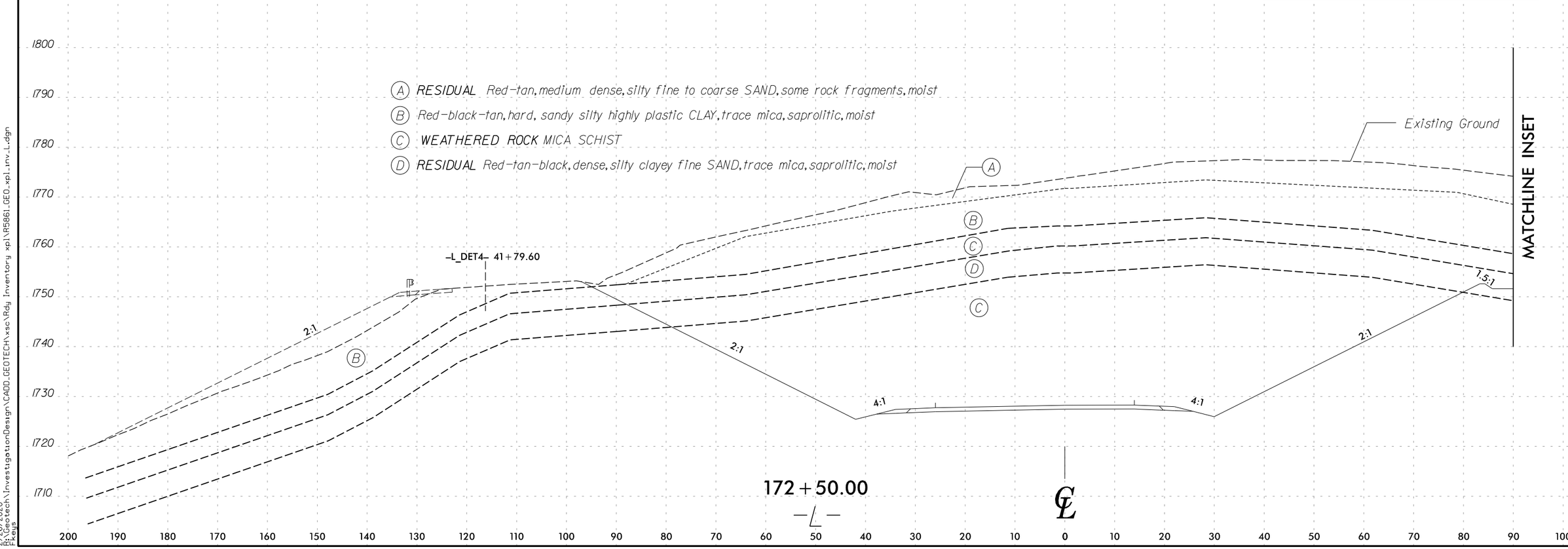


(A) RESIDUAL Red-tan, medium dense, silty fine to coarse SAND, some rock fragments, moist

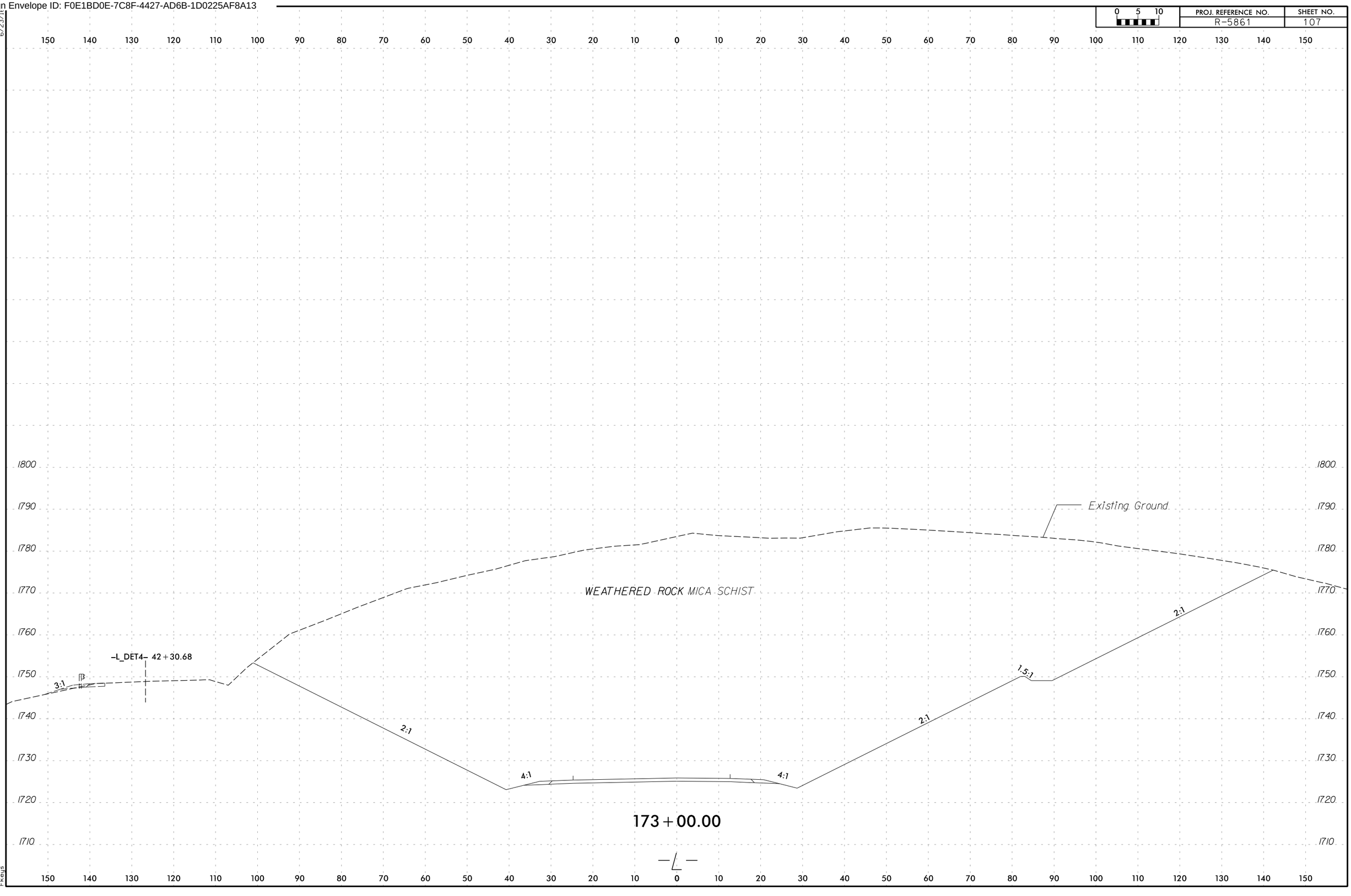
(B) Red-black-tan, hard, sandy silty highly plastic CLAY, trace mica, saprolitic, moist

(C) WEATHERED ROCK MICA SCHIST

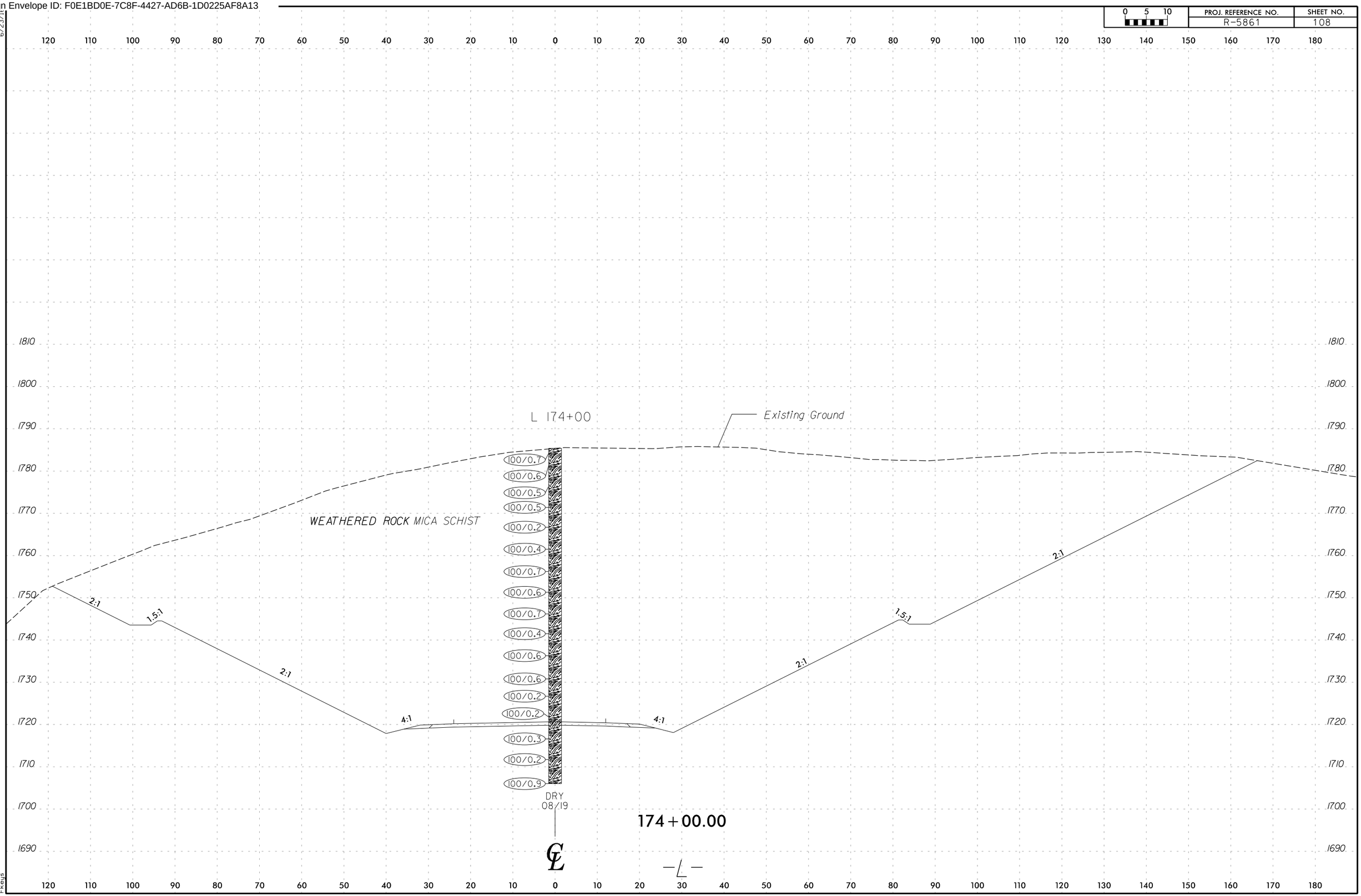
(D) RESIDUAL Red-tan-black, dense, silty clayey fine SAND, trace mica, saprolitic, moist



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	107



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	108



174+00.00

℄

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6/23/15

2/26/2020
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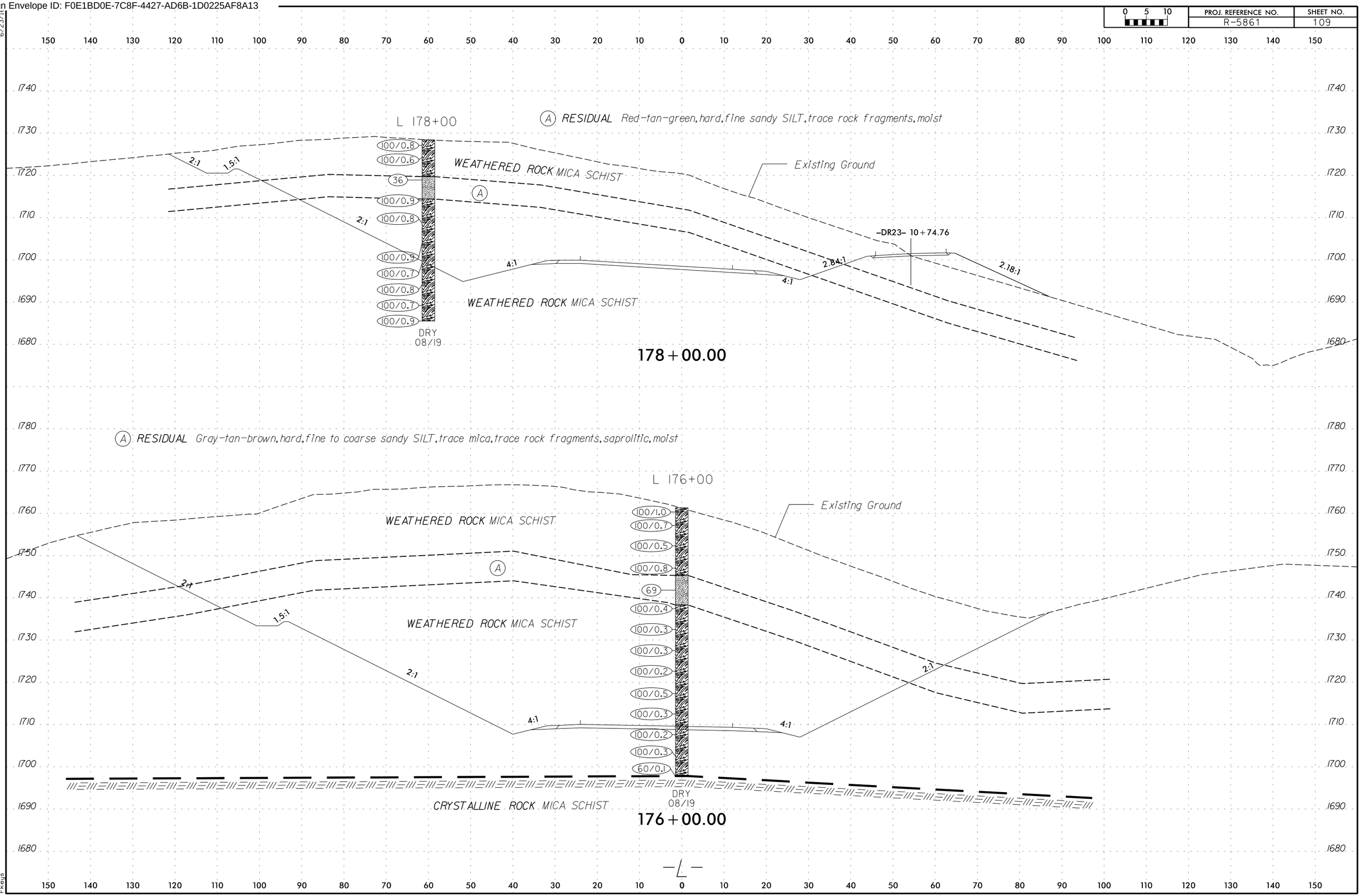
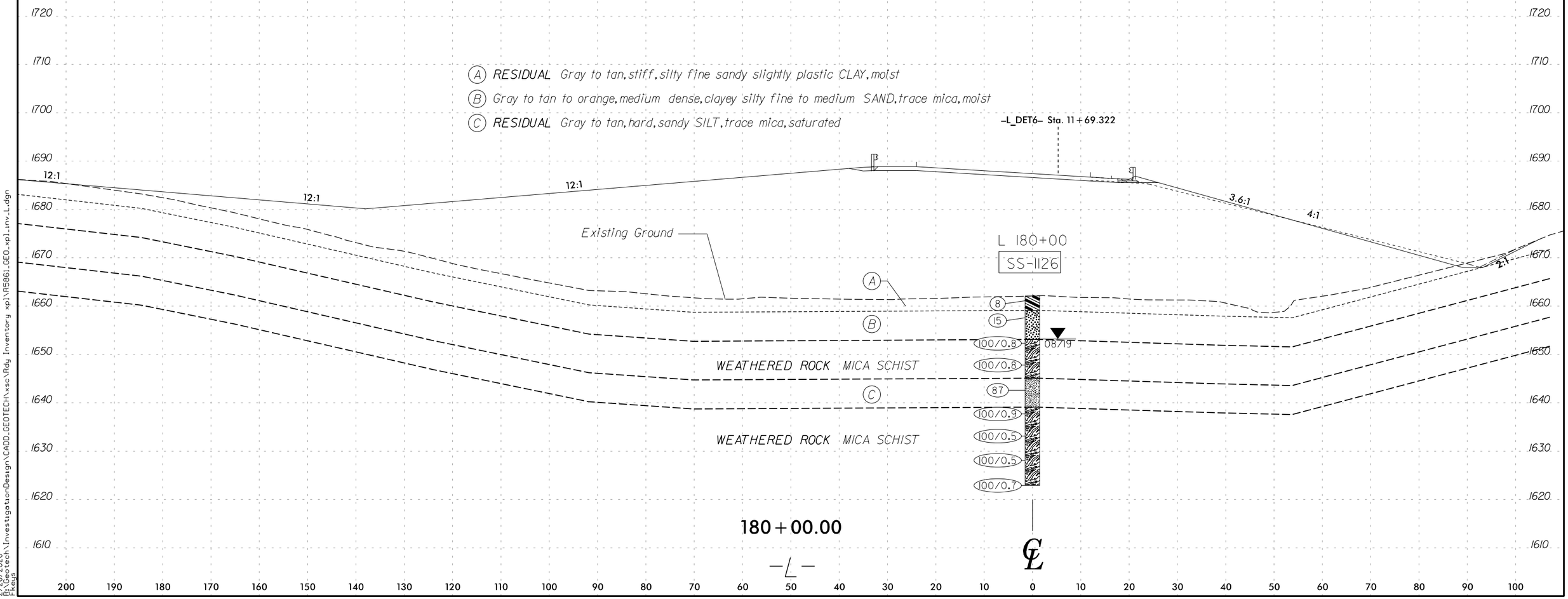


SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1126	180+00	0	0.0-1.5	A-6 (8)	38	11	6	27	33	34	96	92	73.9	23	-



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	111

6/23/15

180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

1720 1710 1700 1690 1680 1670 1660 1650 1640 1630 1620 1610 1600 1590

(A) *ROADWAY EMBANKMENT* *Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist*

(B) *RESIDUAL* *Gray-tan-orange, very stiff, fine sandy SILT, trace rock fragments, saprolitic, moist*

12:1

12:1

2:1

2.02:1

4:1

4.04:1

–L_DET6– Sta. 13+68.41

WEATHERED ROCK MICA SCHIST

Existing Ground

L 182+00

(23)
(29)

08/19

100/0.7
100/0.8
100/1.0
100/0.2
100/0.6
100/0.7
100/0.6
100/0.6

WEATHERED ROCK MICA SCHIST

182+00.00

–L–

℄

2/26/2020
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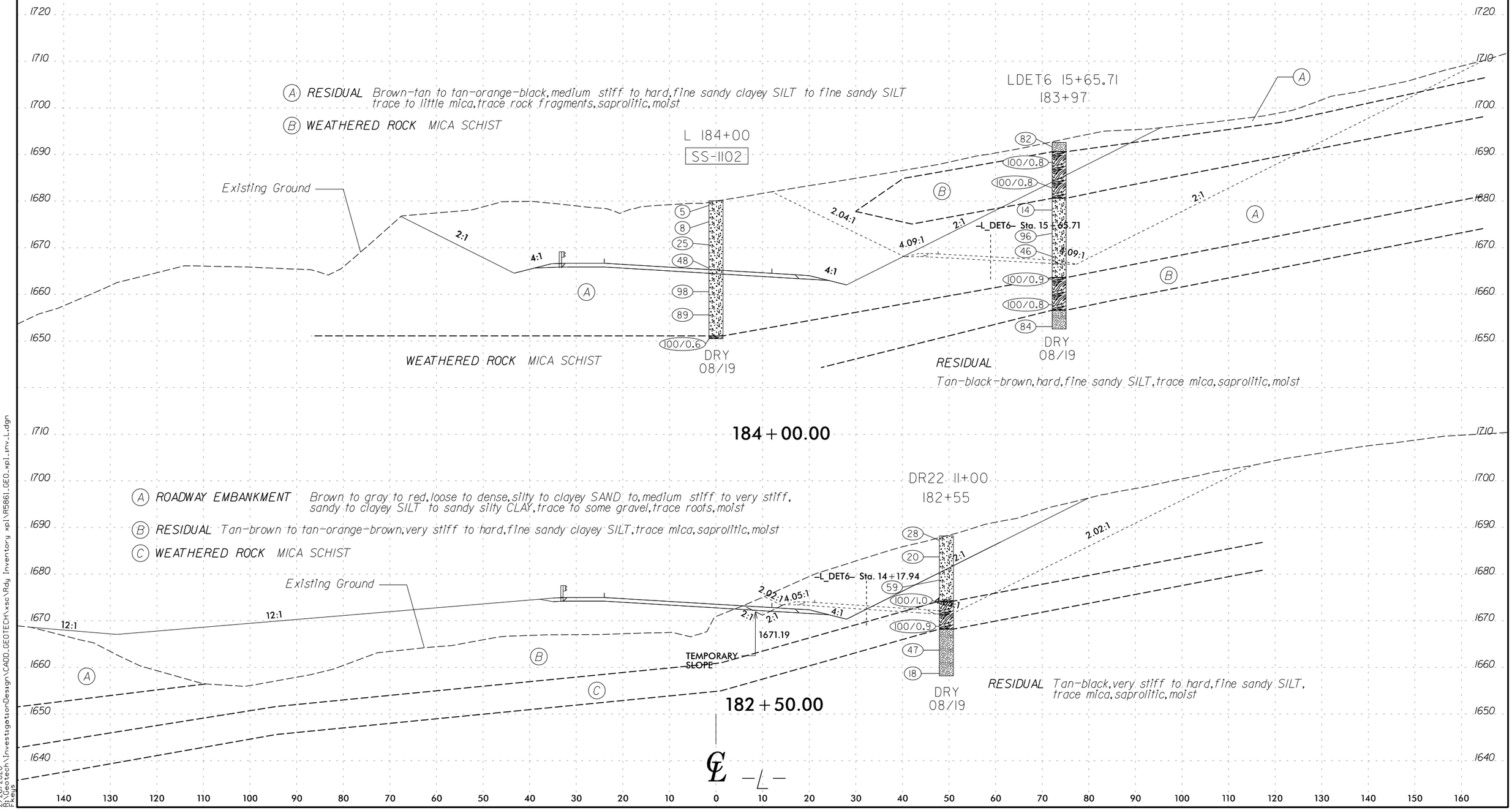
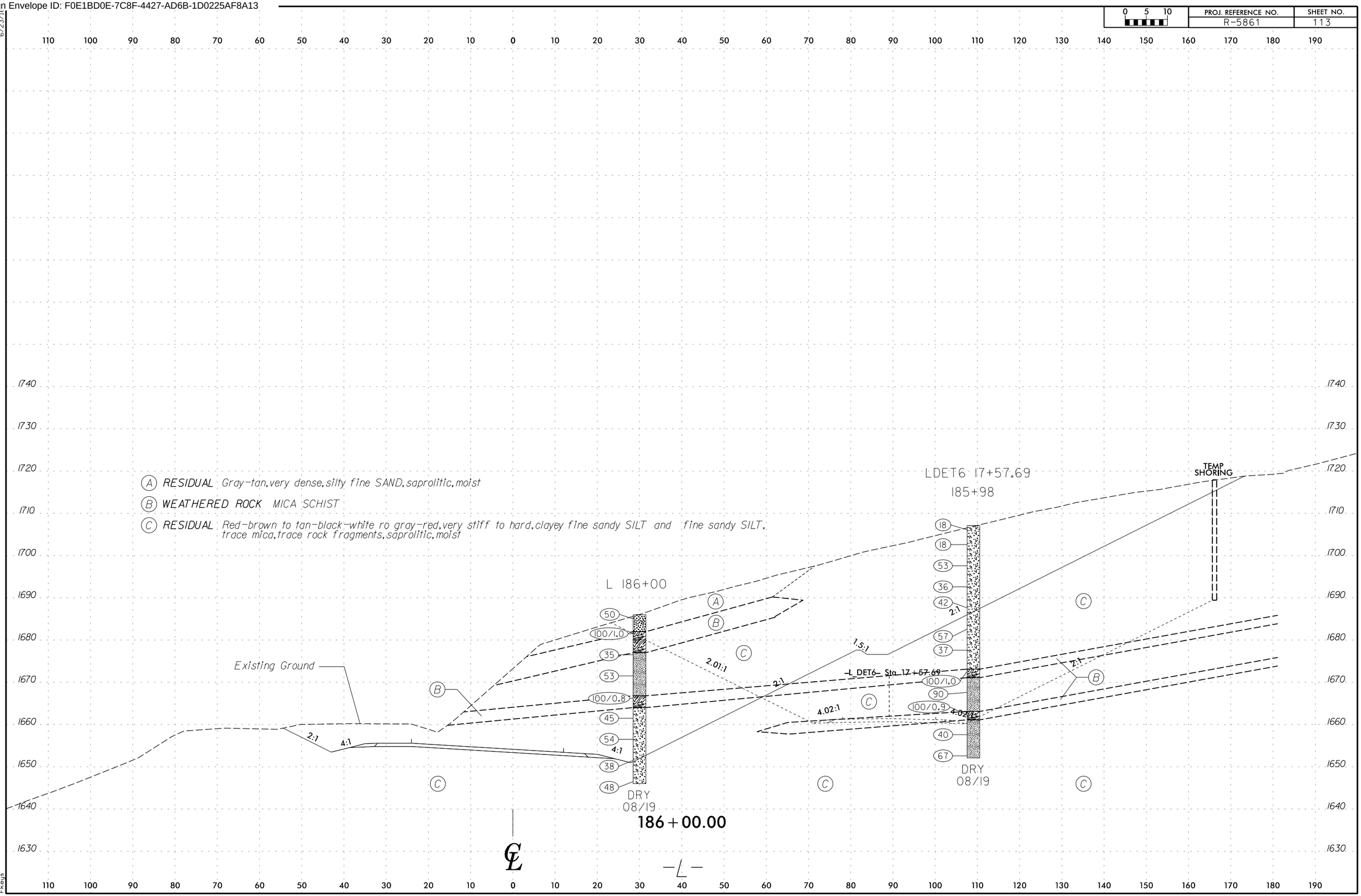
FKeys

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1102	184+00	0	0.0-1.5	A-5 (5)	41	7	15	26	31	28	93	82	64.8	21.4	-



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	113



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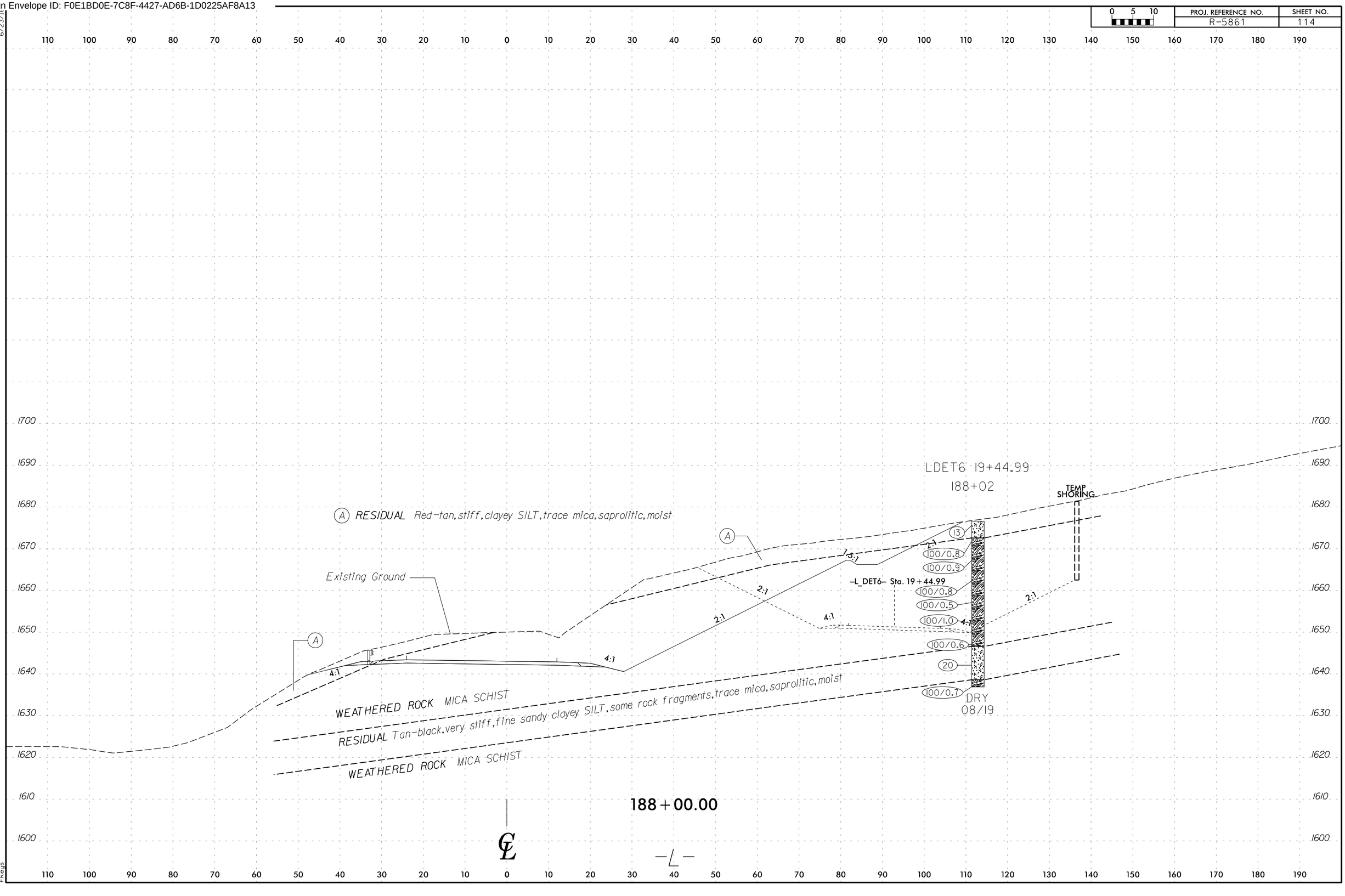
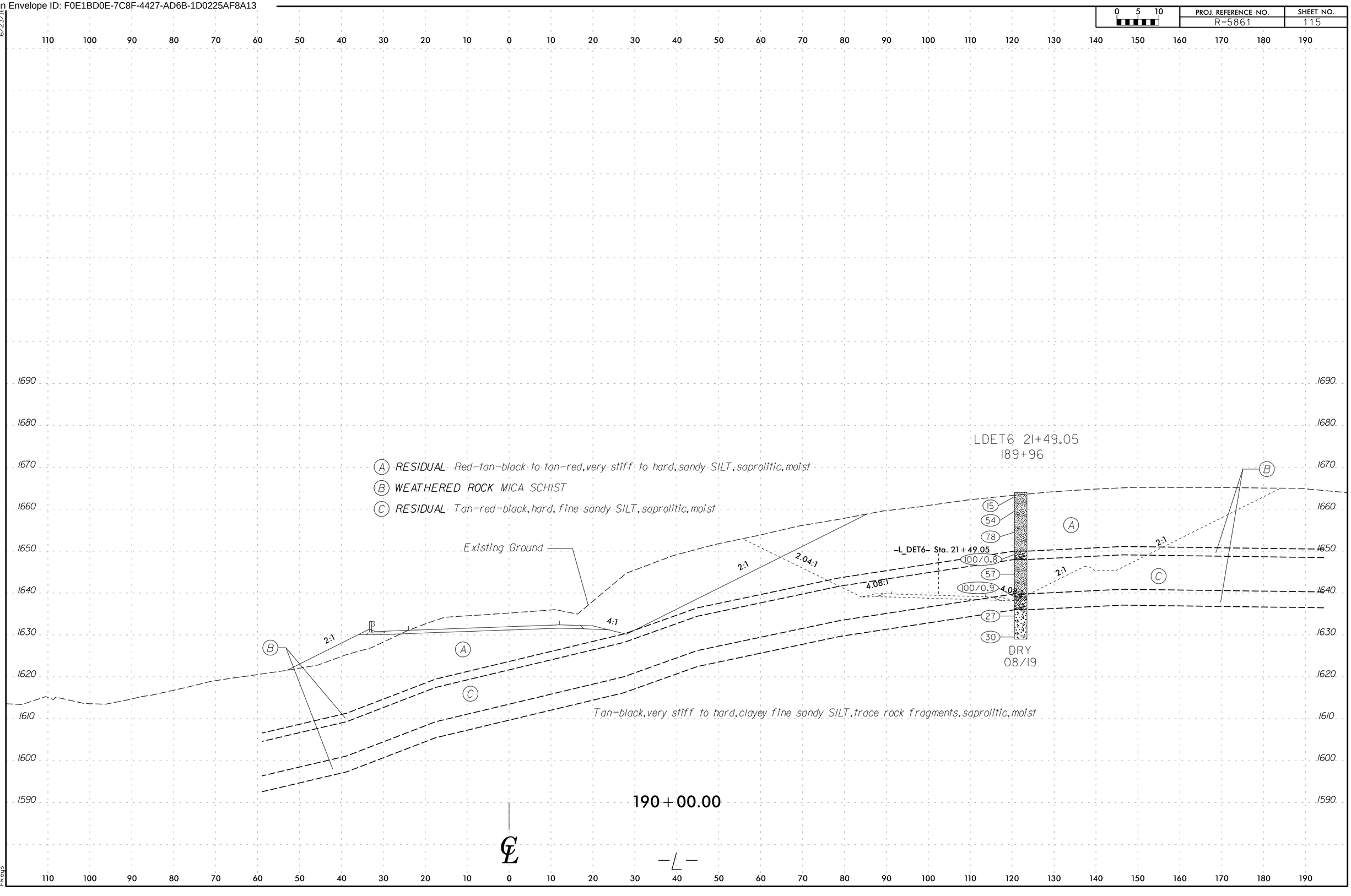




110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

1680 1670 1660 1650 1640 1630 1620 1610 1600 1590 1580 1570

(A) *RESIDUAL* Red-tan-black to tan-red, very stiff to hard, sandy SILT, saprolitic, moist

(B) *WEATHERED ROCK* MICA SCHIST

(C) *RESIDUAL* Tan-red-black, hard, fine sandy SILT, saprolitic, moist

Existing Ground

2:1

4:1

2:1

2.07:1

4.14:1

4.13:1

2.06:1

–L_DET6– Sta. 22+03.35

Tan-black, very stiff to hard, clayey fine sandy SILT, trace rock fragments, saprolitic, moist

190+50.00

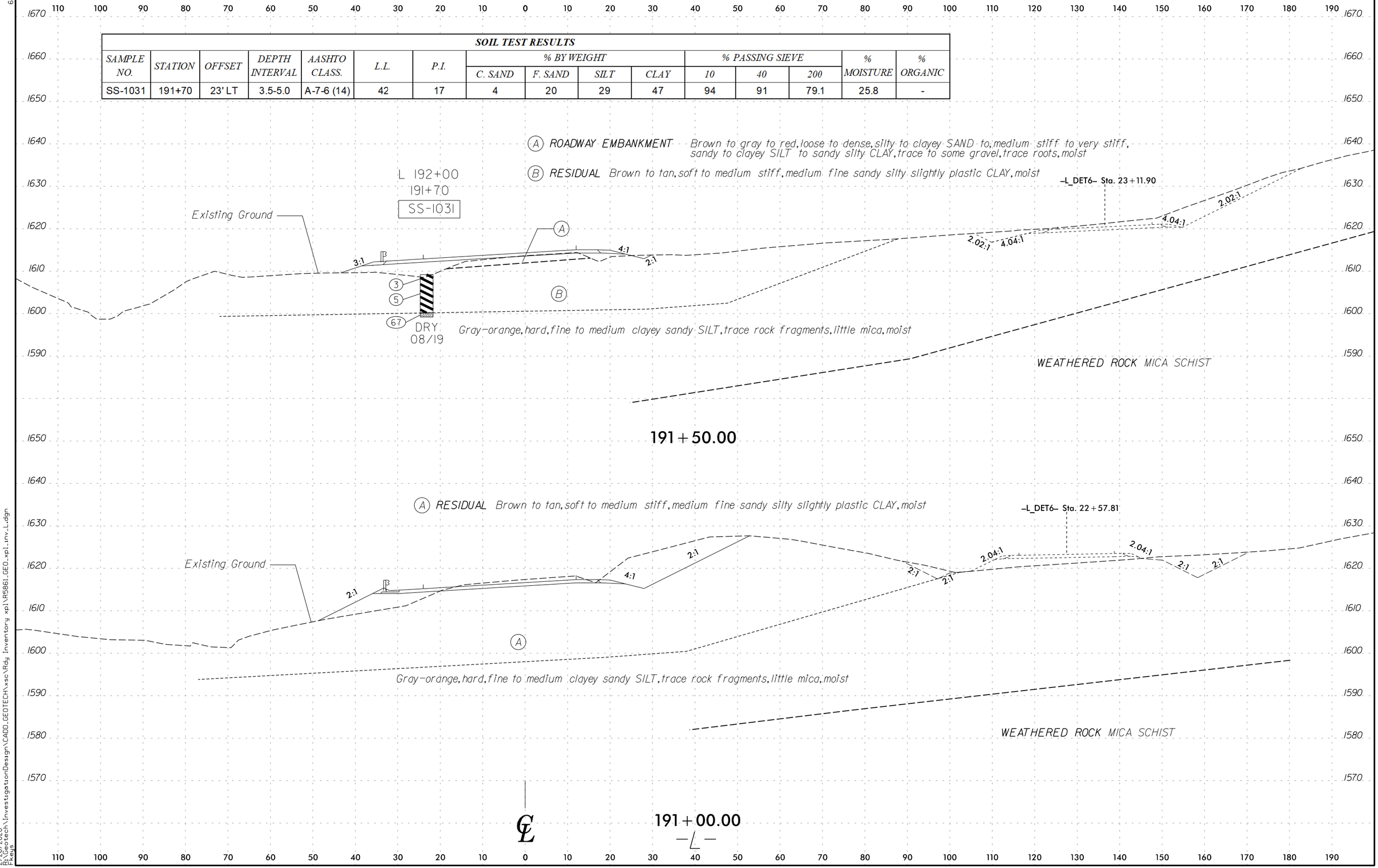
℄

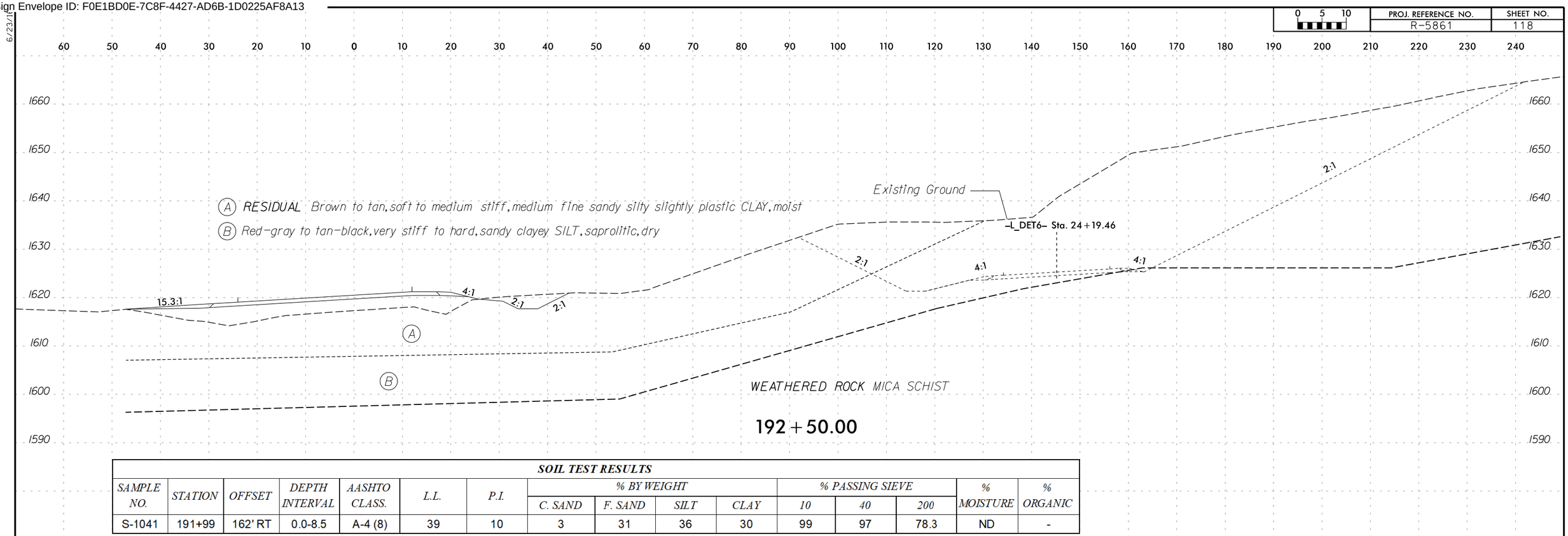
–L–

PROJ. REFERENCE NO.	SHEET NO.
R-5861	117

SOIL TEST RESULTS

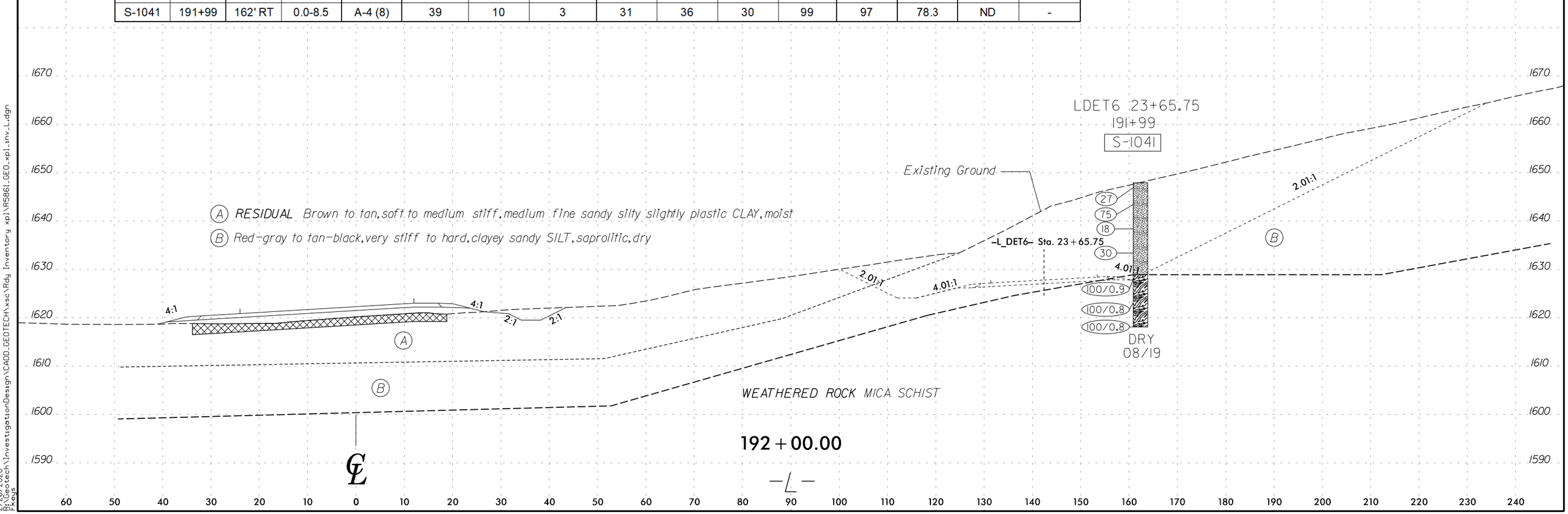
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1031	191+70	23' LT	3.5-5.0	A-7-6 (14)	42	17	4	20	29	47	94	91	79.1	25.8	-





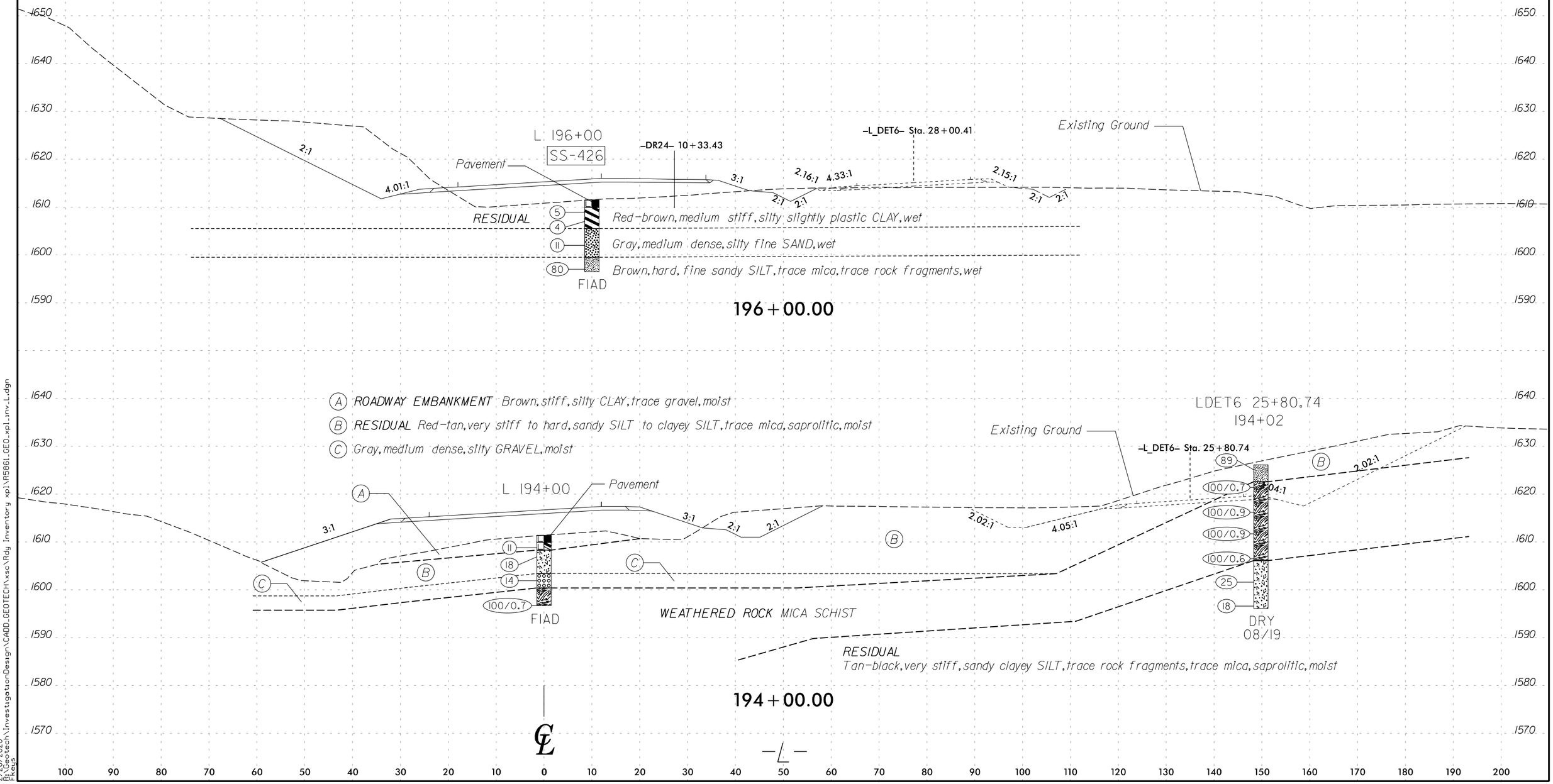
SOIL TEST RESULTS

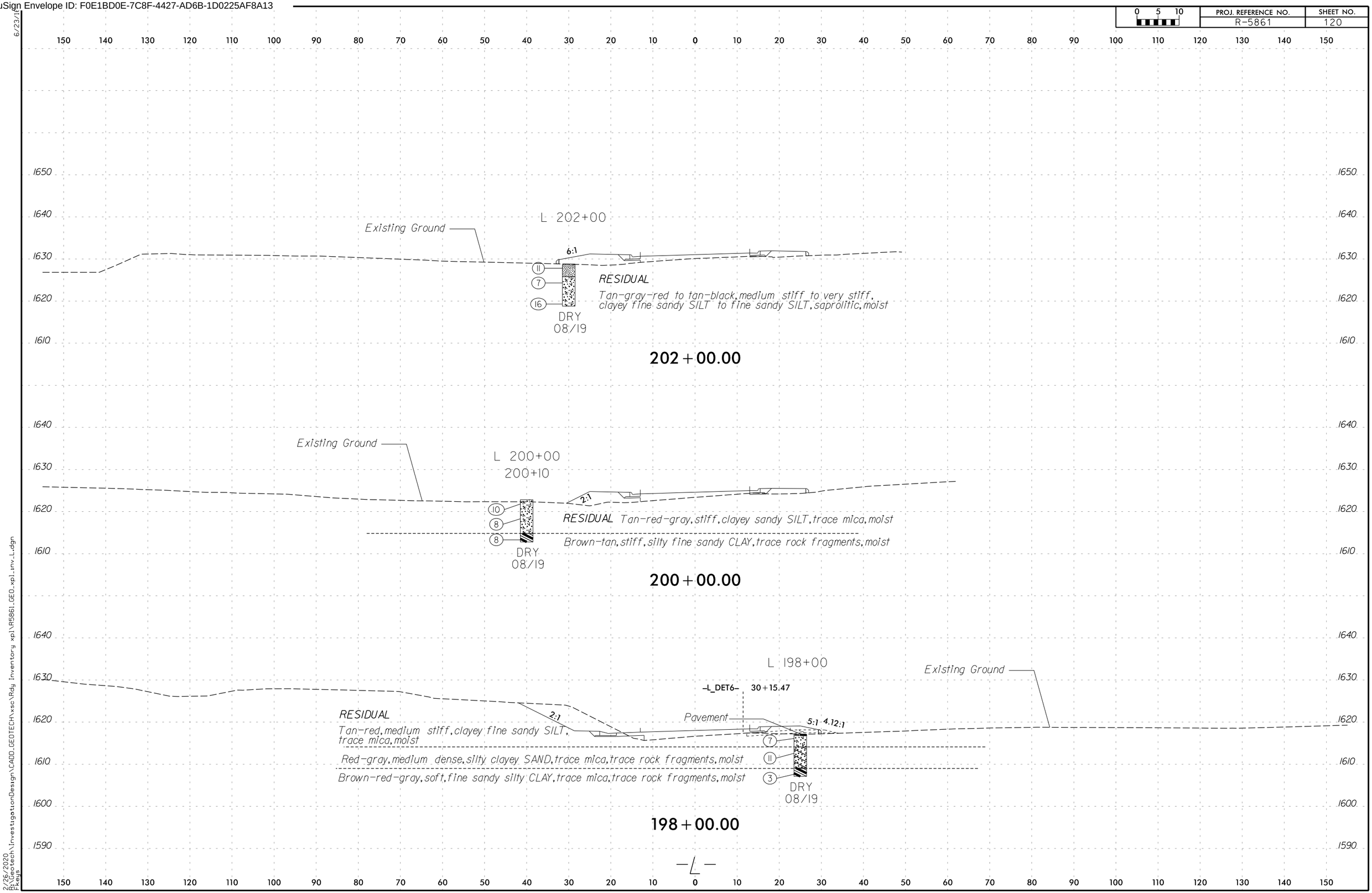
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-1041	191+99	162' RT	0.0-8.5	A-4 (8)	39	10	3	31	36	30	99	97	78.3	ND	-



SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-426	196+00	10' LT	3.5-5.0	A-7-5 (6)	43	12	18	17	27	38	84	72	59.7	21.3	-





150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1650 1640 1630 1620 1610 1600

Existing Ground

L 208+00

2:1

2:1

(4) (5) (20)

DRY
08/19

RESIDUAL

Red-tan to gray-red-tan, medium stiff to very stiff, clayey fine sandy SILT, trace mica, trace rock fragments, moist

208+00.00

Existing Ground

L 206+00

2:1

(10) (22) (21)

DRY
08/19

RESIDUAL

Tan-gray-black, stiff to very stiff, clayey SILT, trace mica, trace rock fragments, moist

206+00.00

Existing Ground

L 204+00

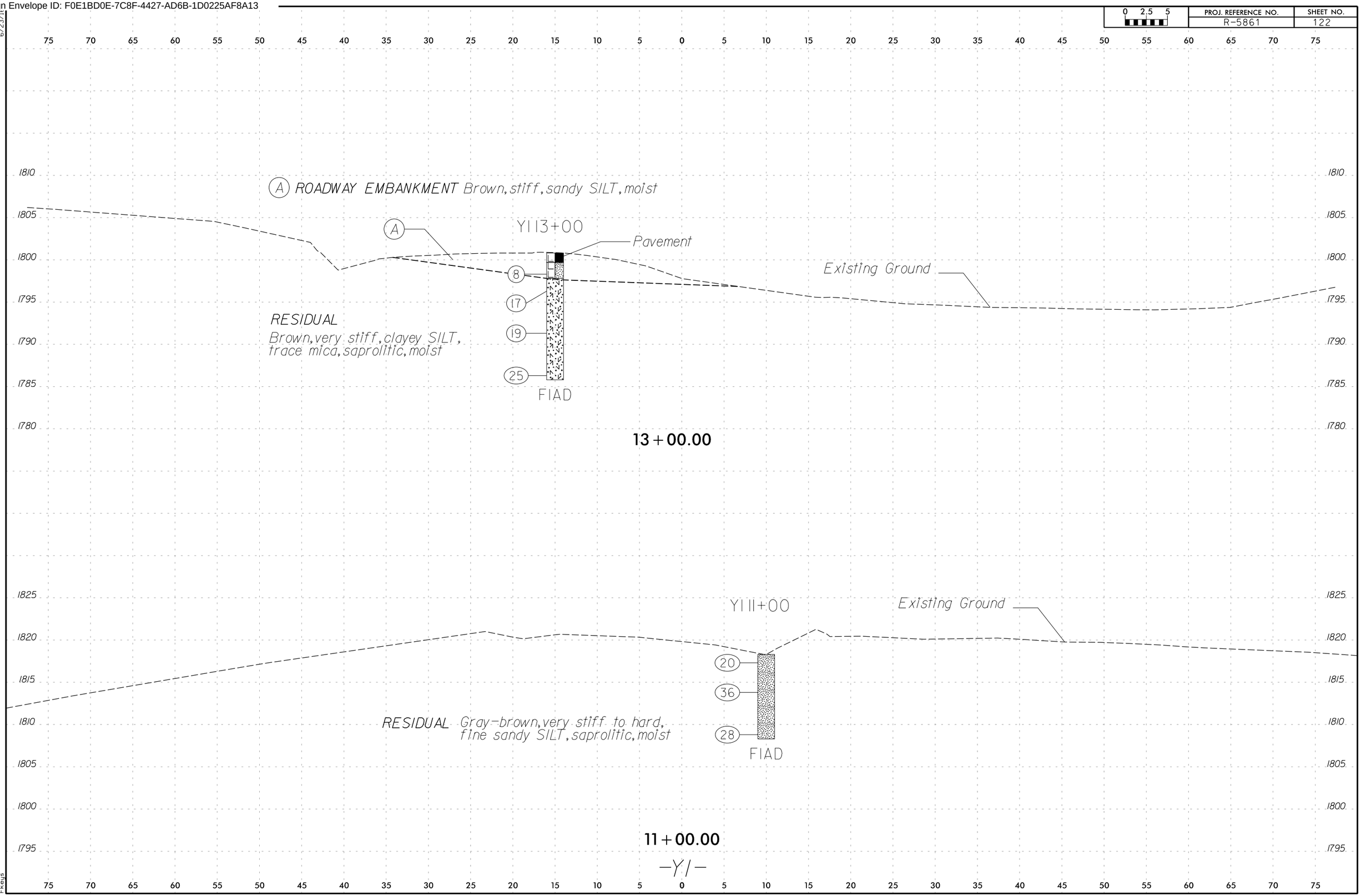
(23) (20) (25)

DRY
08/19

RESIDUAL

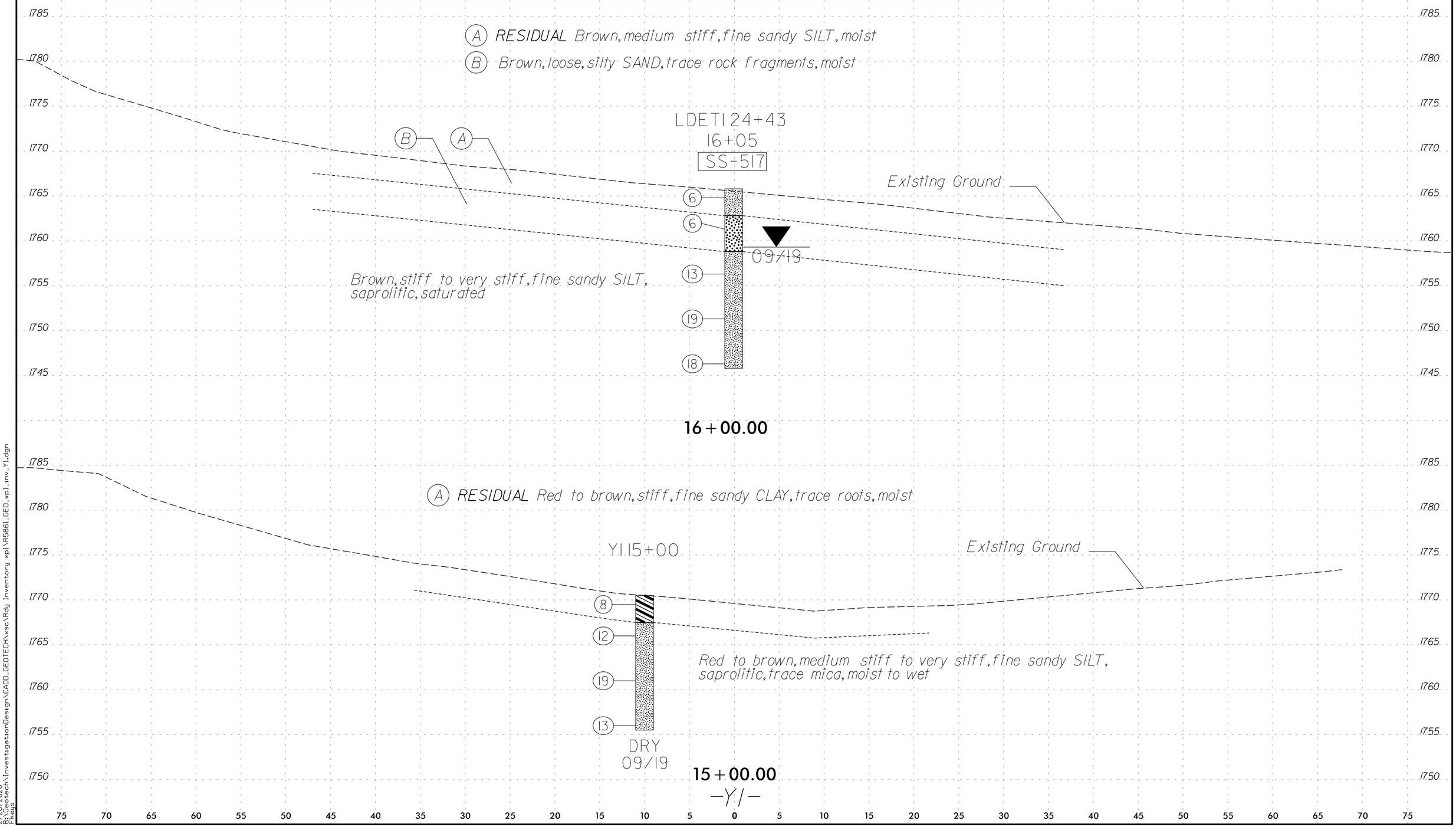
Tan-black, very stiff, clayey fine sandy SILT, trace organics, trace mica, trace rock fragments, moist

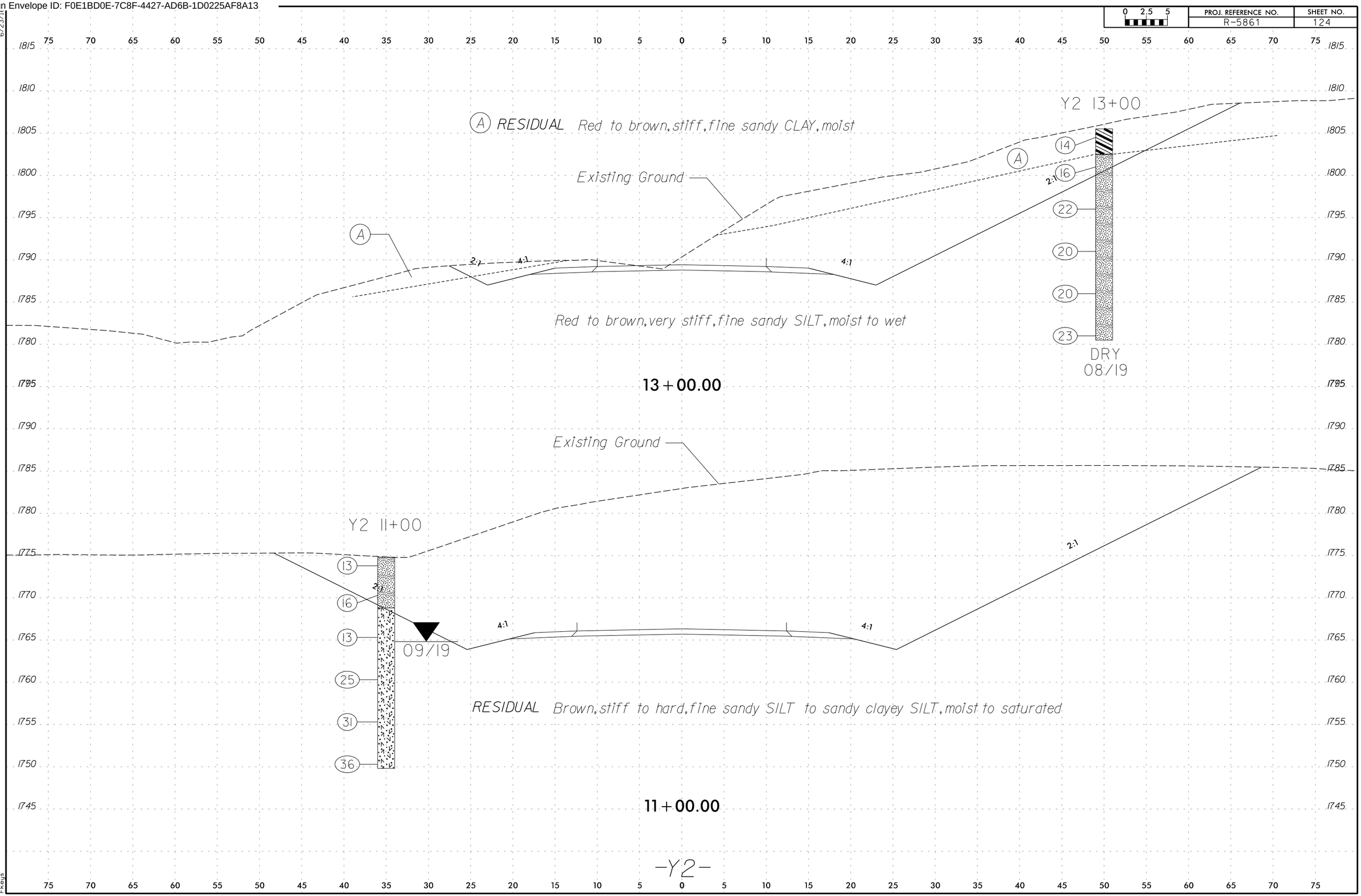
204+00.00

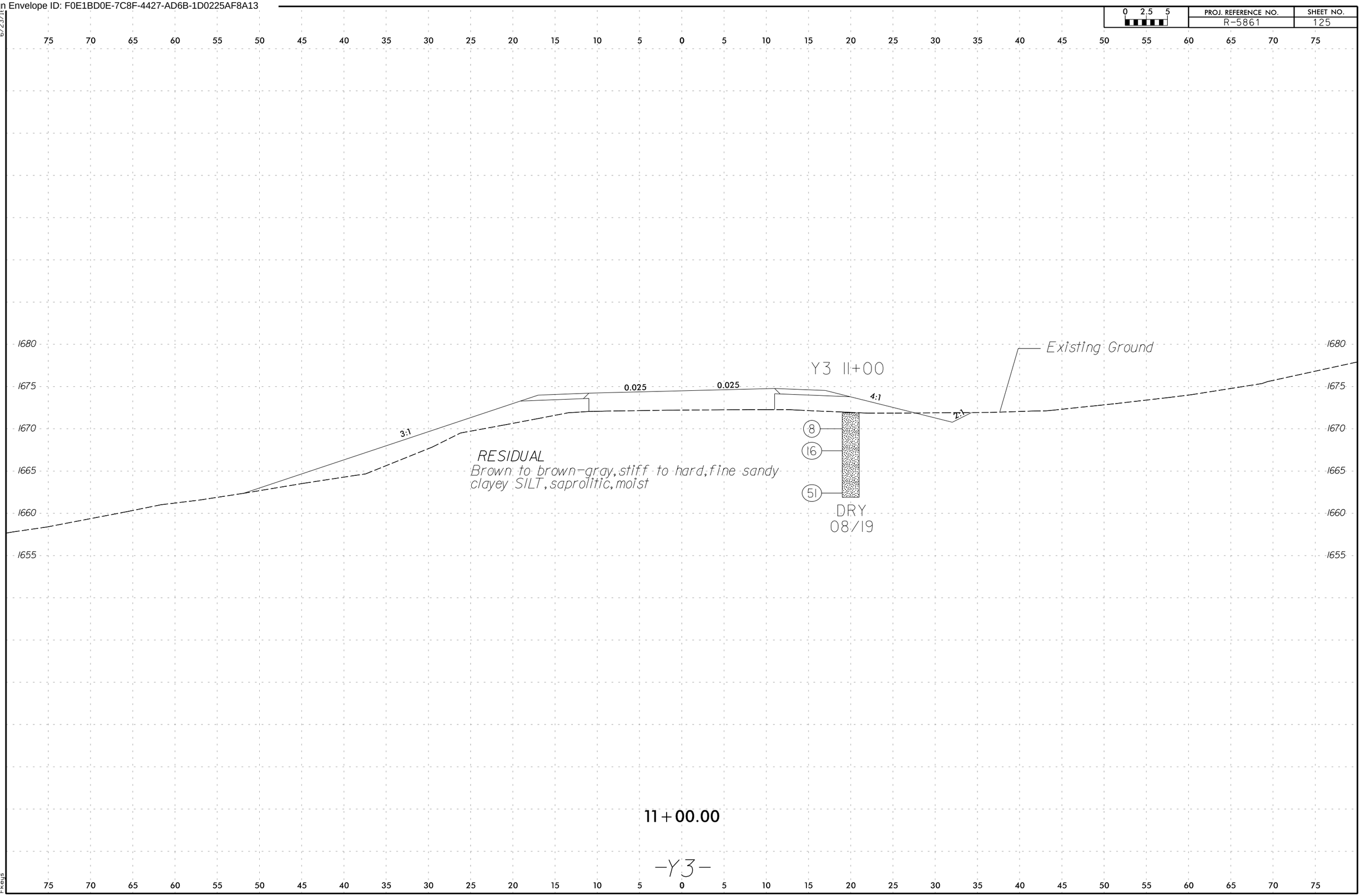


SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-517	16+05	0	3.5-5.0	A-2-4 (0)	30	5	21	46	11	22	63	56	29.3	15.8	-







6/23/15

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

1725 1720 1715 1710 1705 1700 1695 1690 1685 1680 1675 1670 1665 1660 1655 1650 1645 1640

(A) RESIDUAL Brown to red, very loose to dense, silty fine SAND, moist

(B) Brown, very stiff to hard, fine sandy SILT, saprolitic, moist to wet

(C) WEATHERED ROCK MICA SCHIST

(D) RESIDUAL Gray to brown, very dense, silty SAND, some rock fragments, saprolitic, moist

Existing Ground

4:1

2:1

DR7 11+00
12+78

5
3
30
17
48
100/0.4
62
51
79

A
B
C
D

DRY
08/19

Brown to gray, hard, fine sandy SILT, trace mica, saprolitic, wet

13+00.00

-Y3-

2/26/2020
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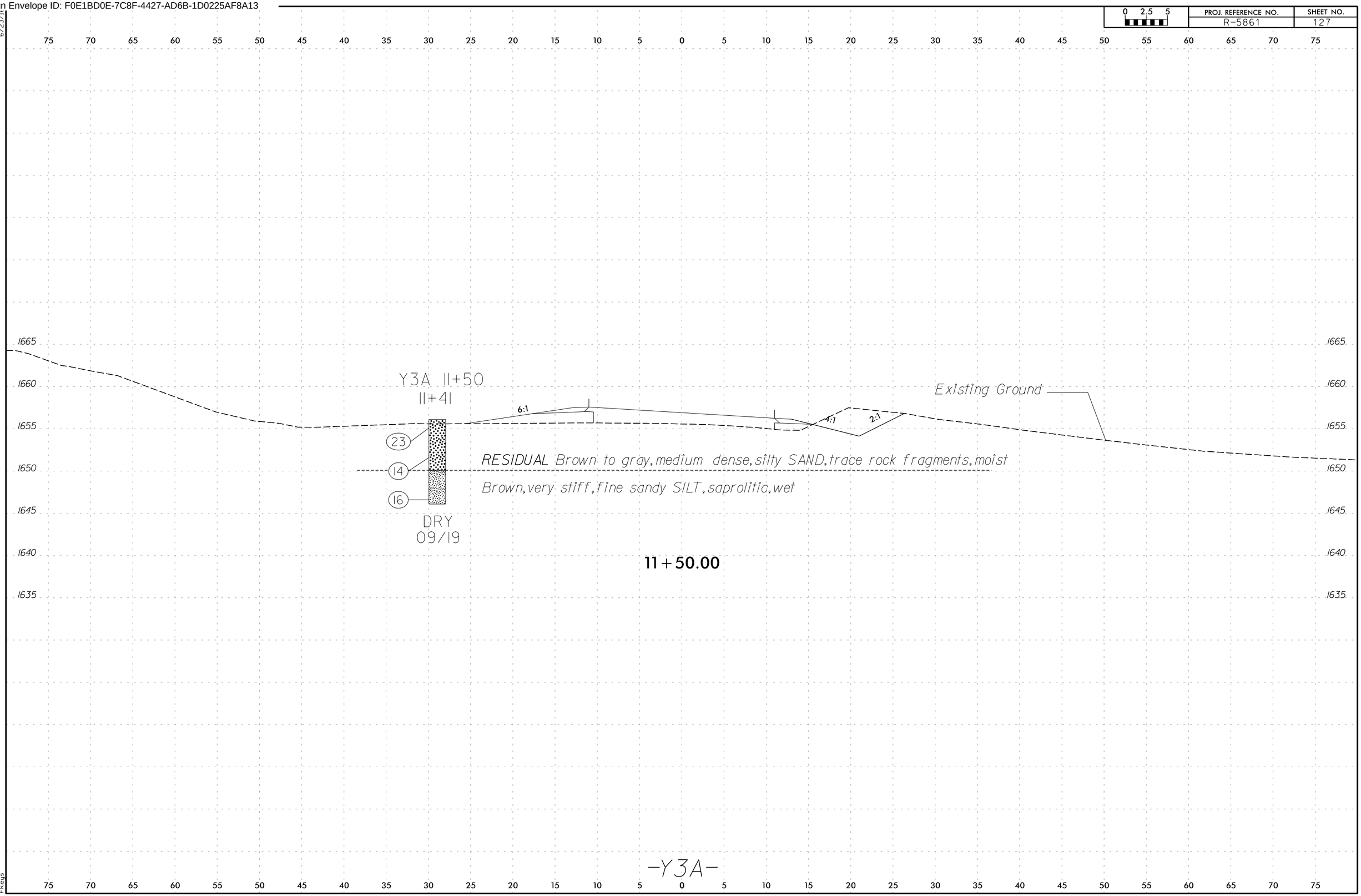
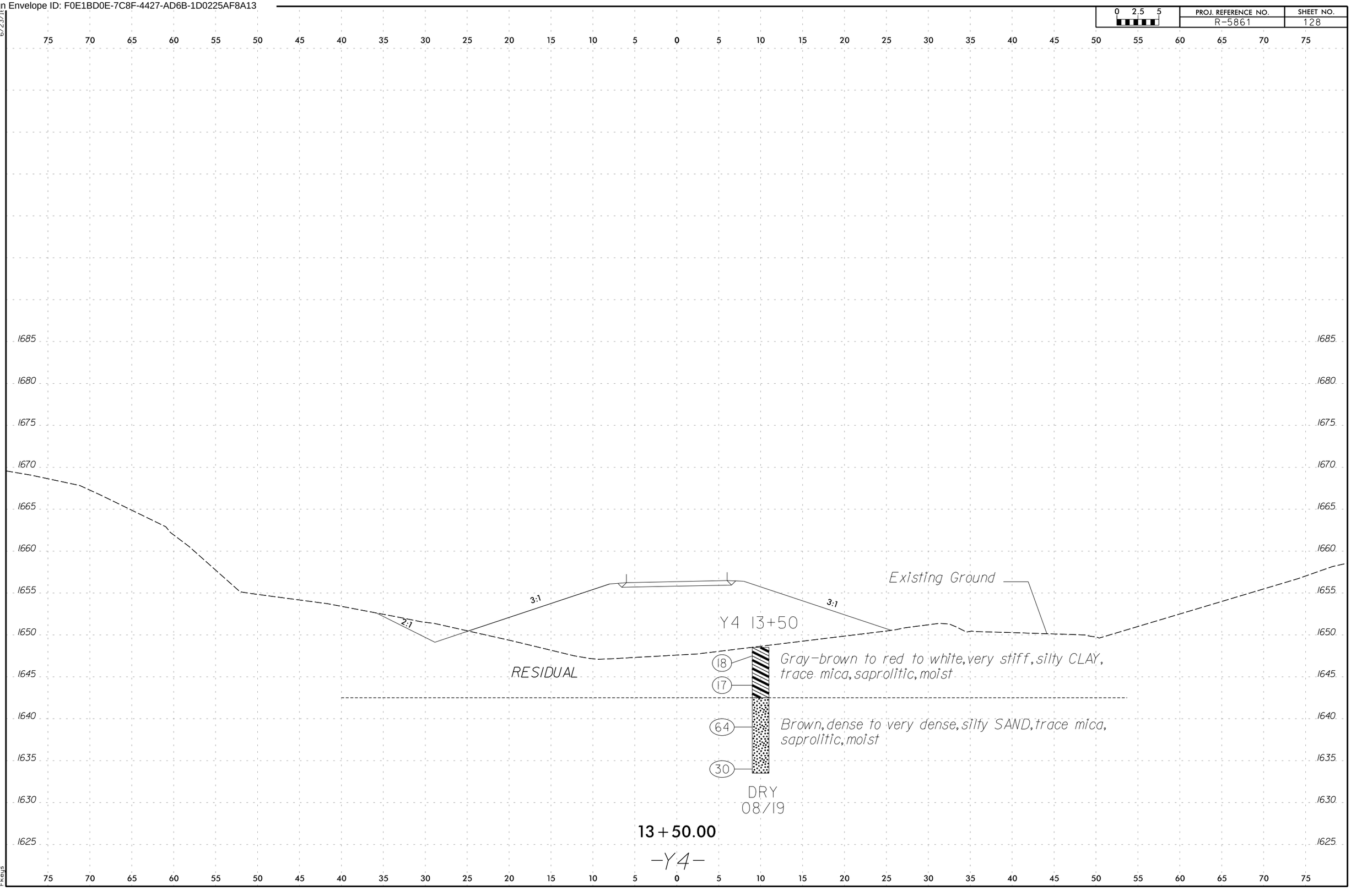


0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	128



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F:keys

6/23/15

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	129

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

1680 1675 1670 1665 1660 1655 1650 1645 1640 1635 1630 1625 1620

Ⓐ *RESIDUAL* Brown, medium stiff, fine sandy clayey SILT, trace roots, moist

3:1

3:1

Existing Ground

Y4 15+00

9
3
17
21
43

08/19

Brown to orange, soft, silty fine sandy CLAY, wet

Brown, very stiff to hard, fine to coarse sandy SILT, trace mica, trace rock fragments, saprolitic, saturated

15+00.00

-Y4-

2/26/2020
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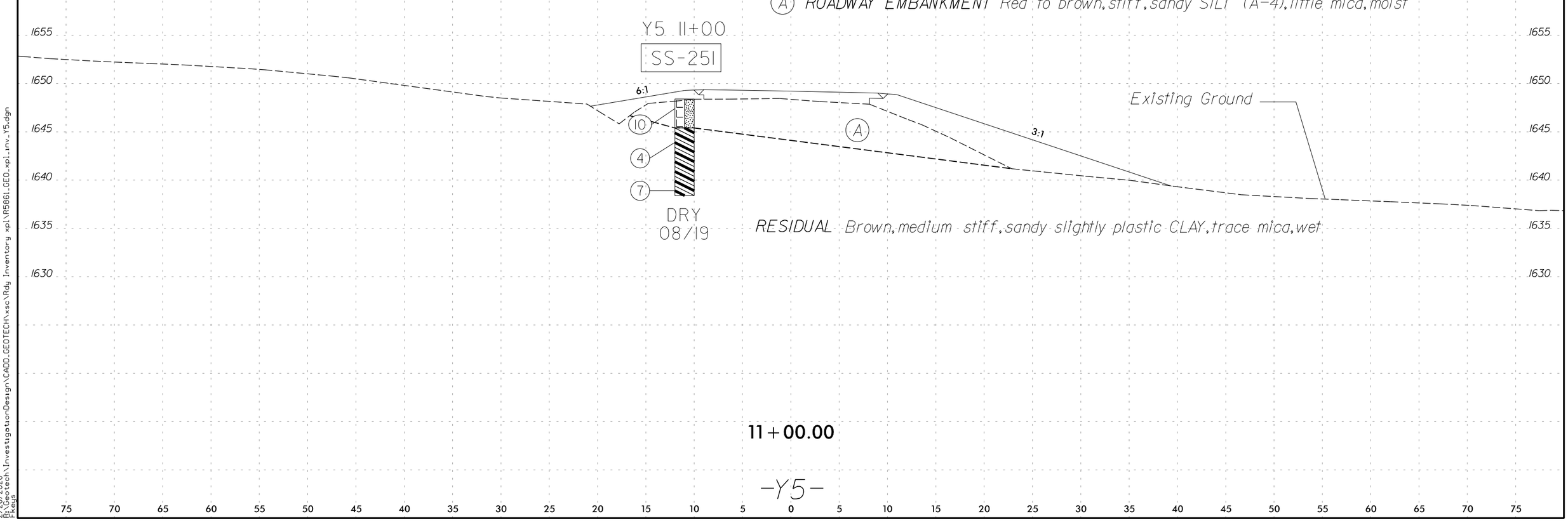
Fkeys

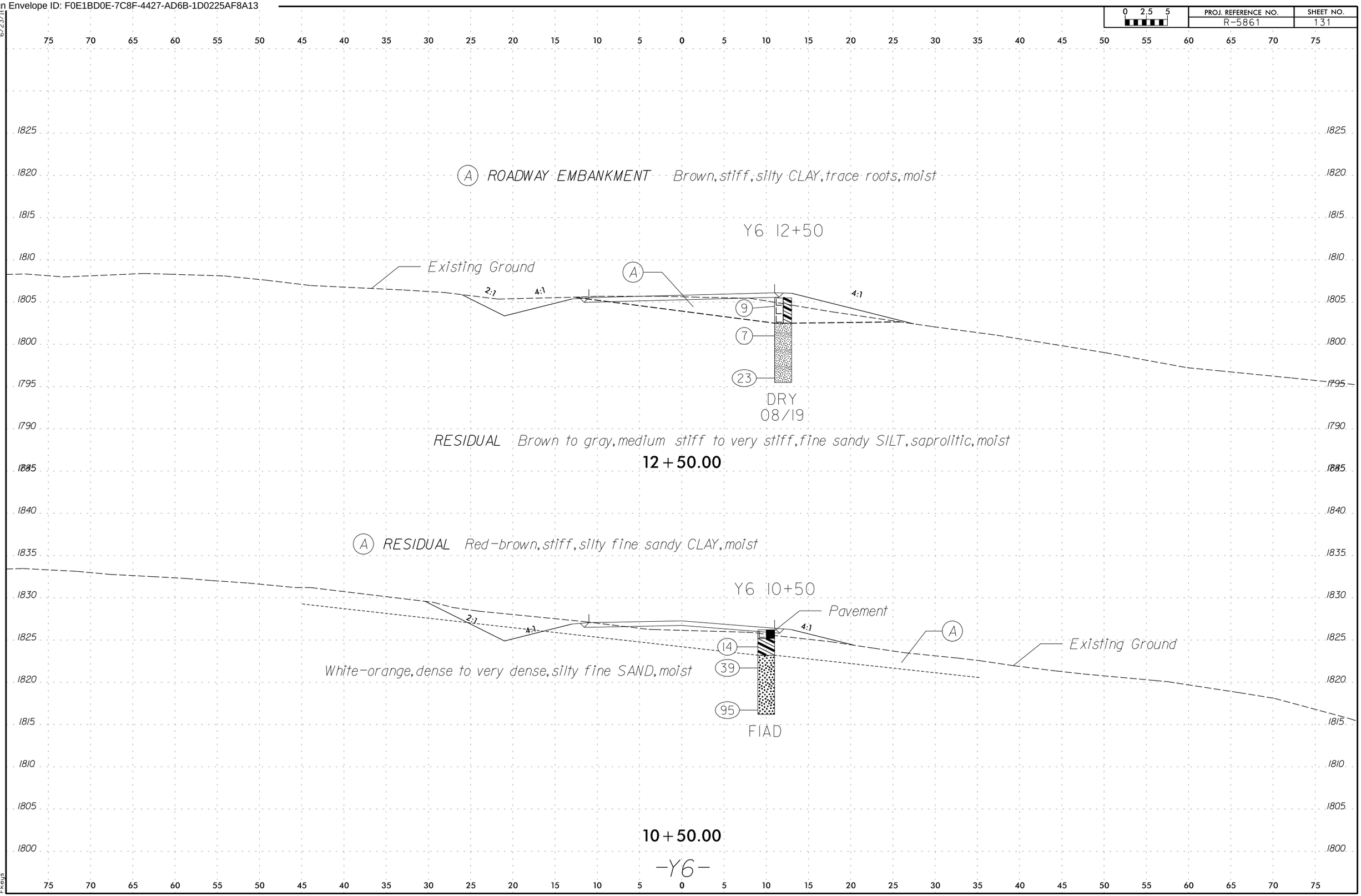
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-251	11+00	11' LT	3.5-5.0	A-6 (4)	37	12	18	33	16	33	96	85	52.6	23.3	-



11+00.00

-Y5-



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	132

95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55

1810
1805
1800
1795
1790
1785
1780
1775
1770
1765
1760
1755
1750
1745

2:1
2:1
2:1

Y6 14+50

15
12
11
29
34

4:1
4:1
2:1

DRY
08/19

RESIDUAL Red-brown, stiff to hard, clayey SILT to fine sandy SILT, trace roots, saprolitic, moist

14+50.00

-Y6-

℄

95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55

6/23/15

2/26/2020
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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	133

95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55

1805 1800 1795 1790 1785 1780 1775 1770 1765 1760 1755 1750 1745 1740

(A) RESIDUAL Brown, very dense, silty SAND, saprolitic, trace rock fragments, moist

Existing Ground

Y6 16+00

82

100/0.5

100/0.9

08/19

100/0.9

100/0.3

60/0.1

AR

2:1

2:1

2:1

4:1

4:1

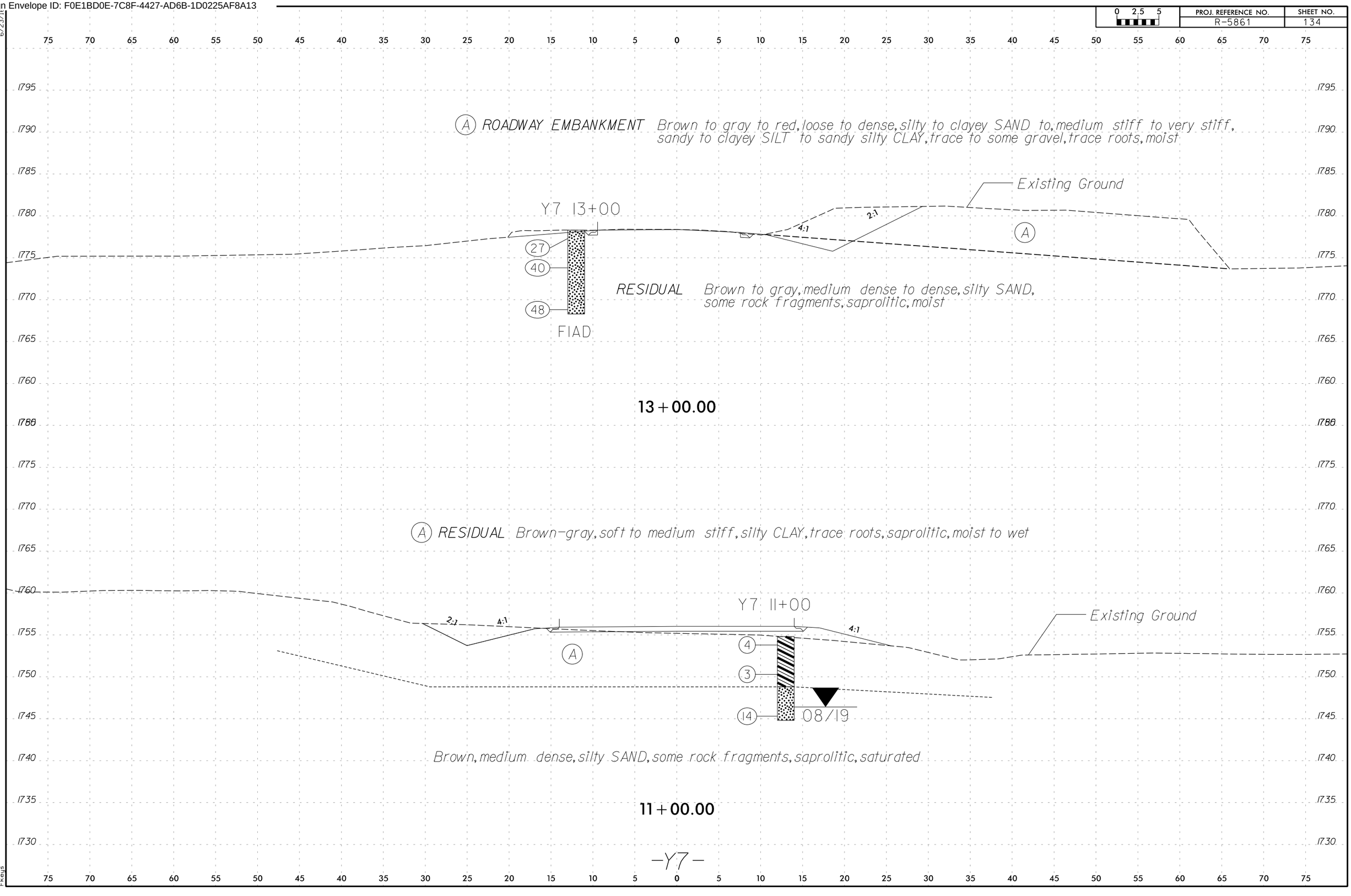
2:1

WEATHERED ROCK MICA SCHIST

CRYSTALLINE ROCK MICA SCHIST

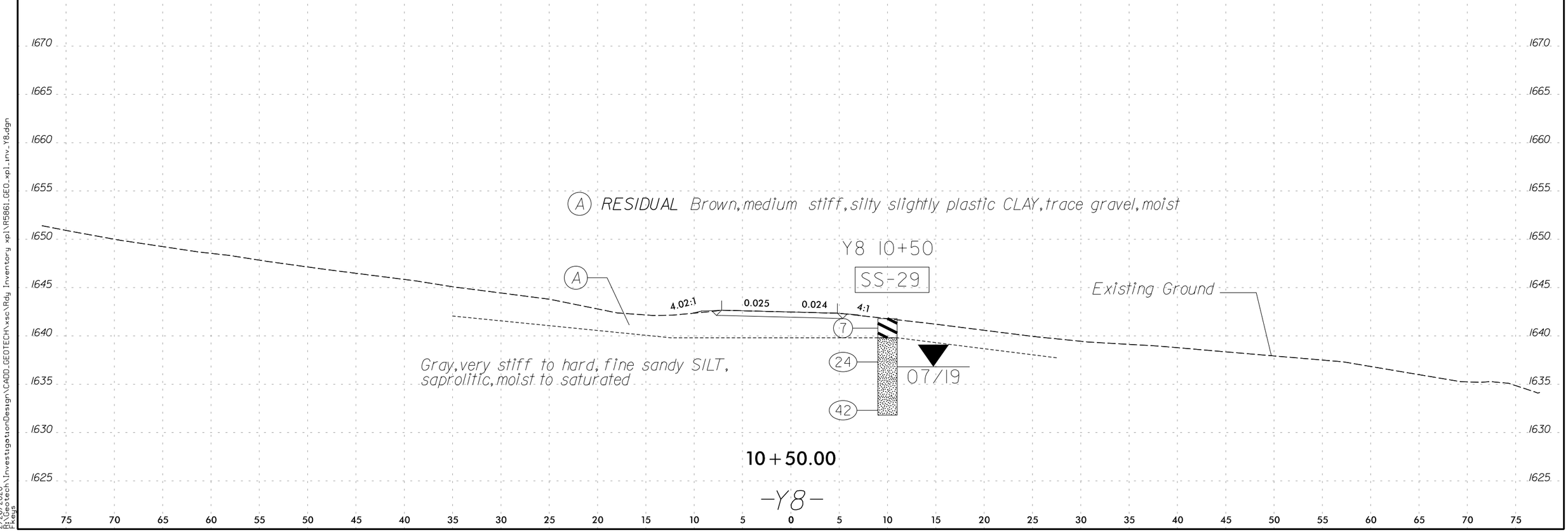
16+00.00

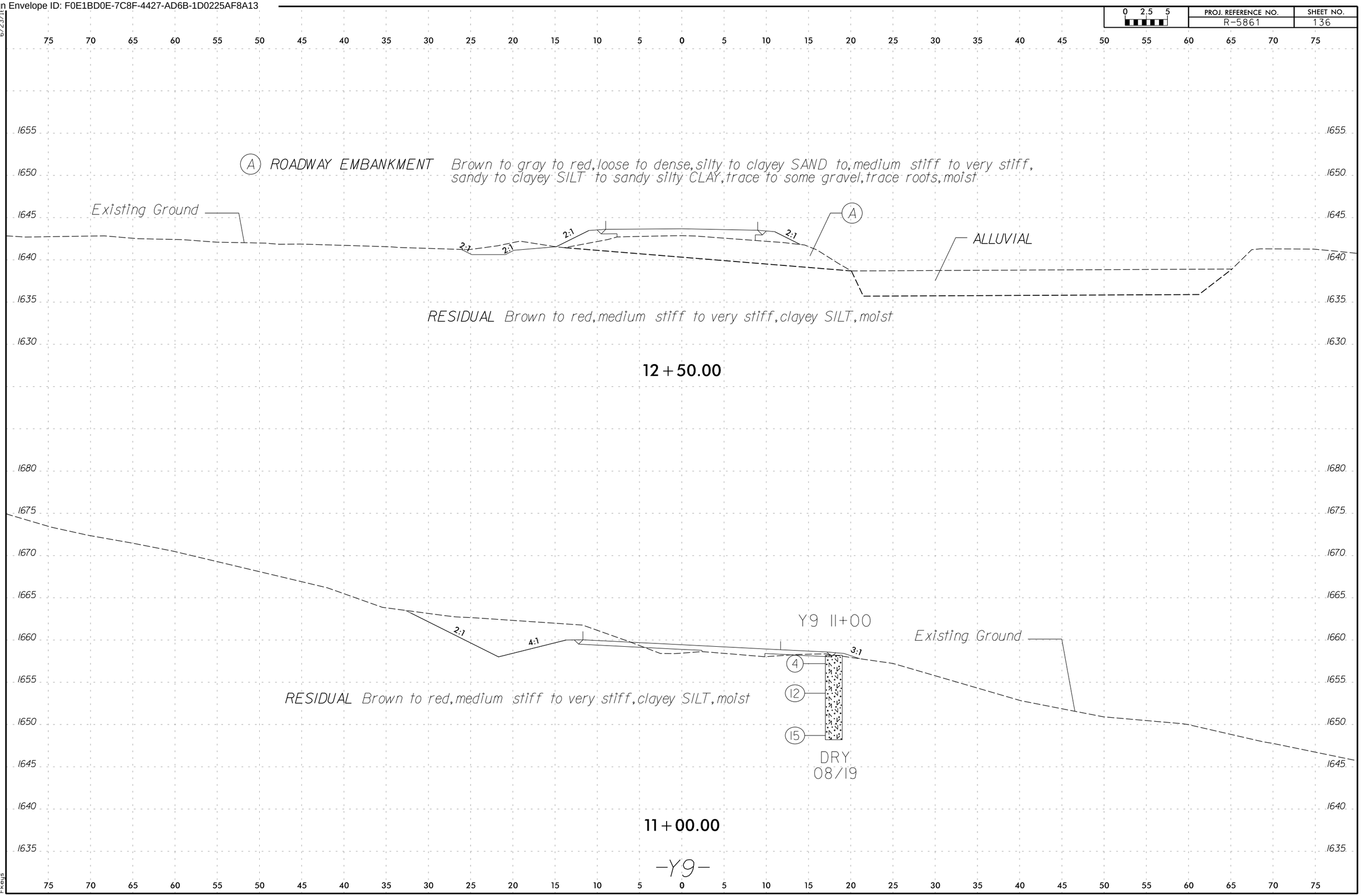
-Y6-



SOIL TEST RESULTS

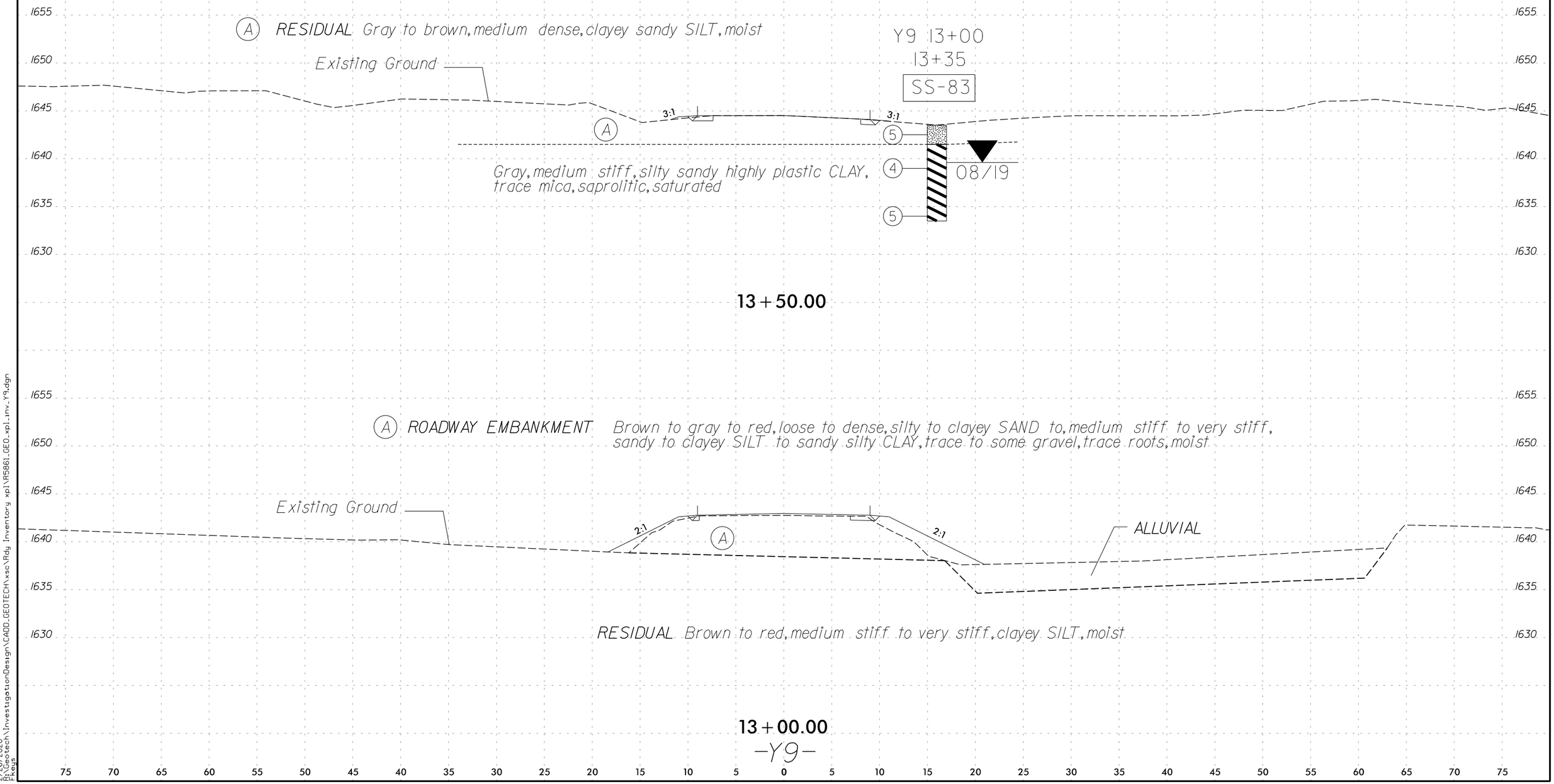
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-29	10+50	10' RT	0.0-1.5	A-7-5 (10)	43	13	7	25	44	24	90	86	73.4	31	-





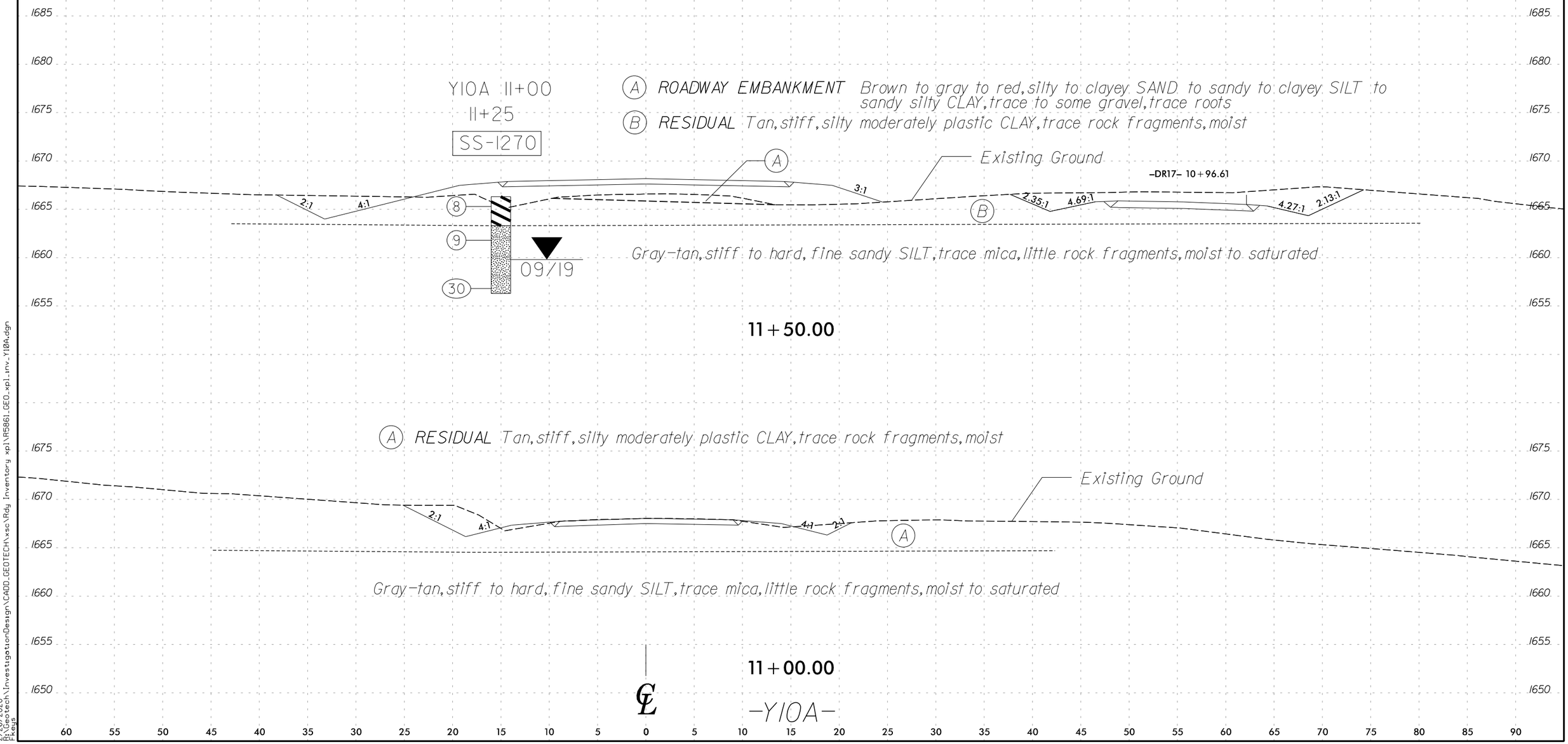
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-83	13+00	16' RT	3.5-5.0	A-7-5 (25)	64	33	5	37	24	34	100	97	71.3	43.3	-



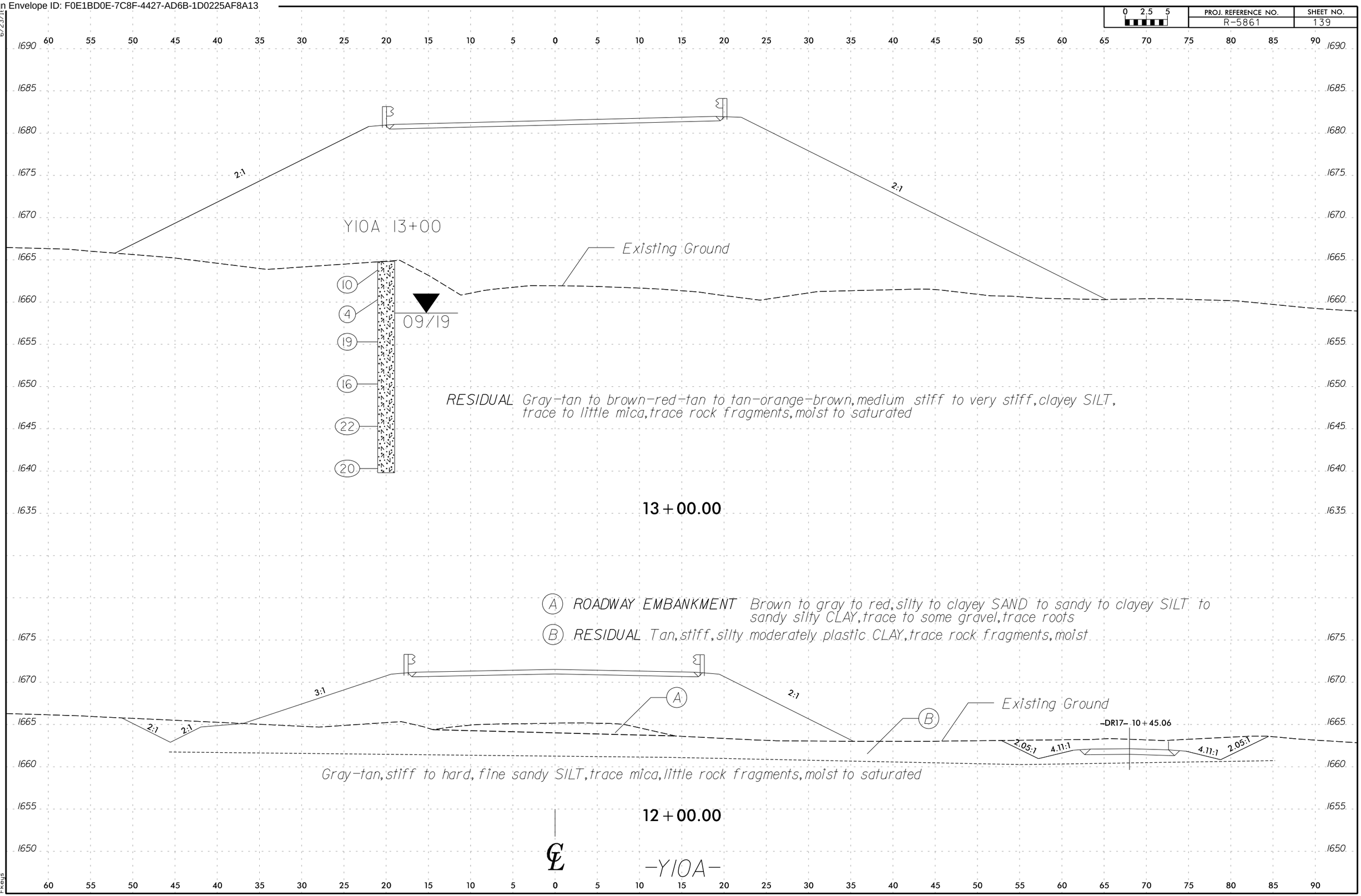
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1270	11+25	15' LT	0.0-1.5	A-7-6 (23)	51	23	4	9	37	50	98	95	88.9	22.5	-



PROJ. REFERENCE NO.	SHEET NO.
R-5861	139

0 2.5 5



6/23/15

2/26/2020
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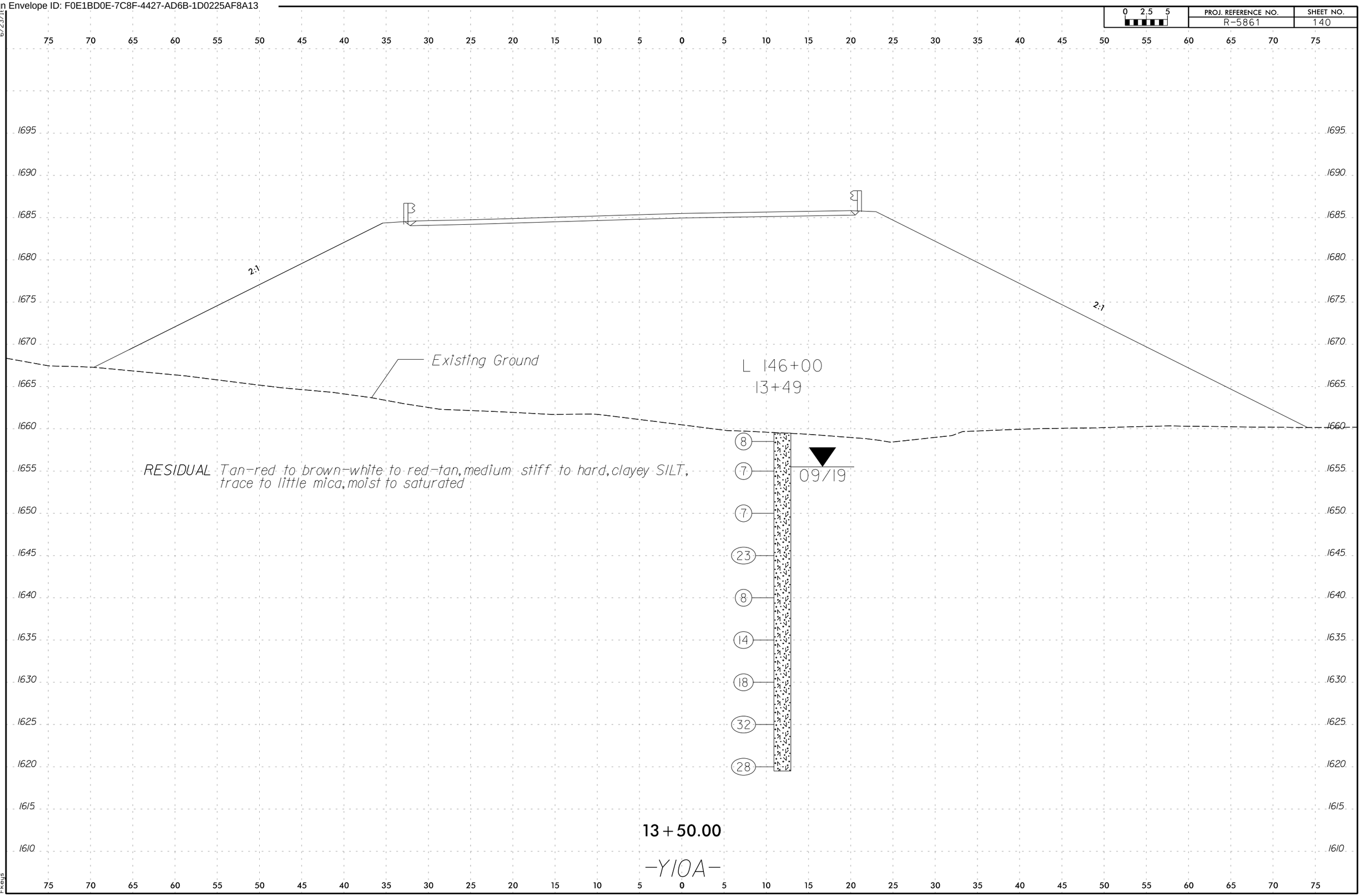
Keys

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	140



6/23/15

2/26/2020
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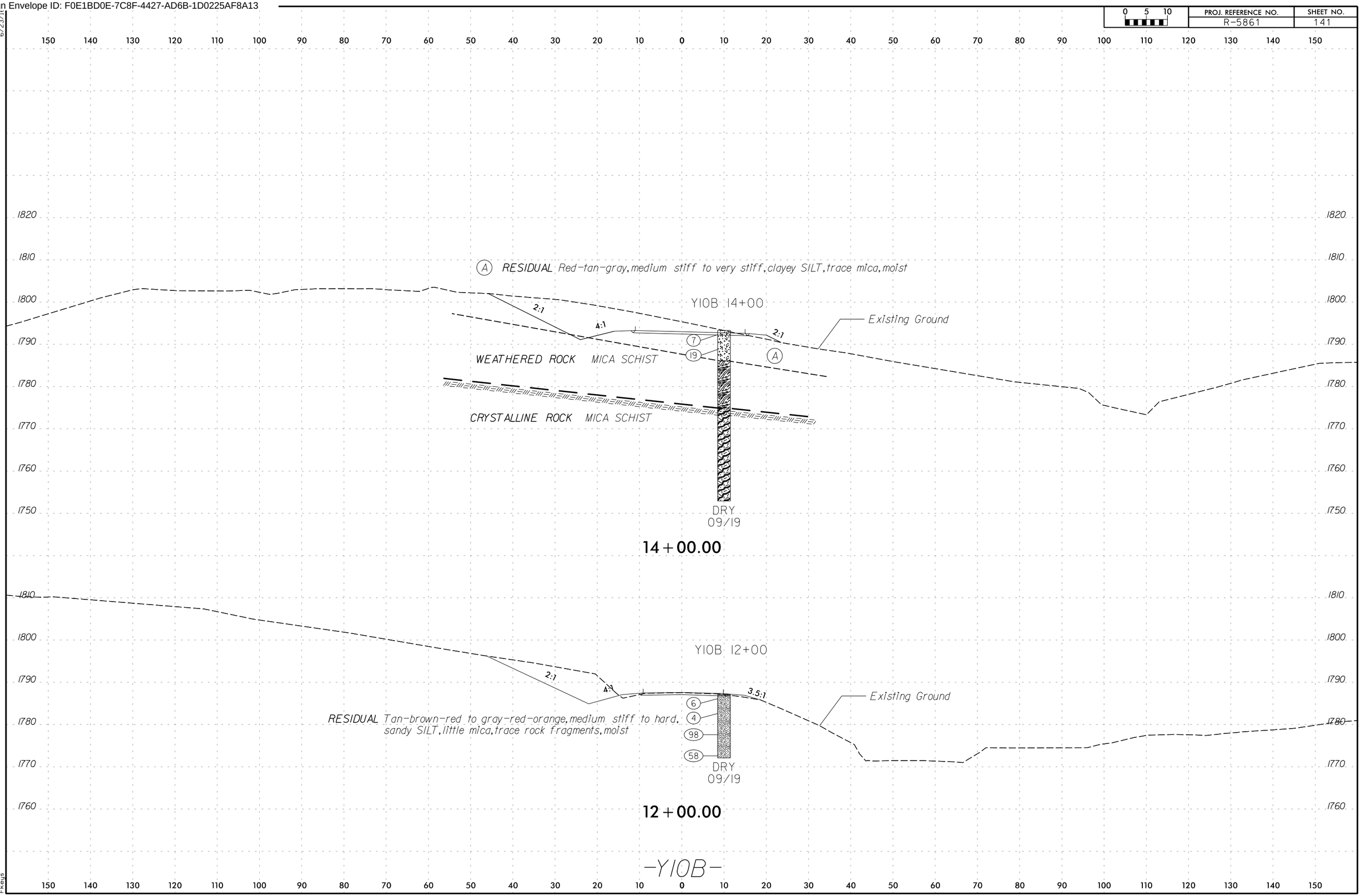
Keys

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	141



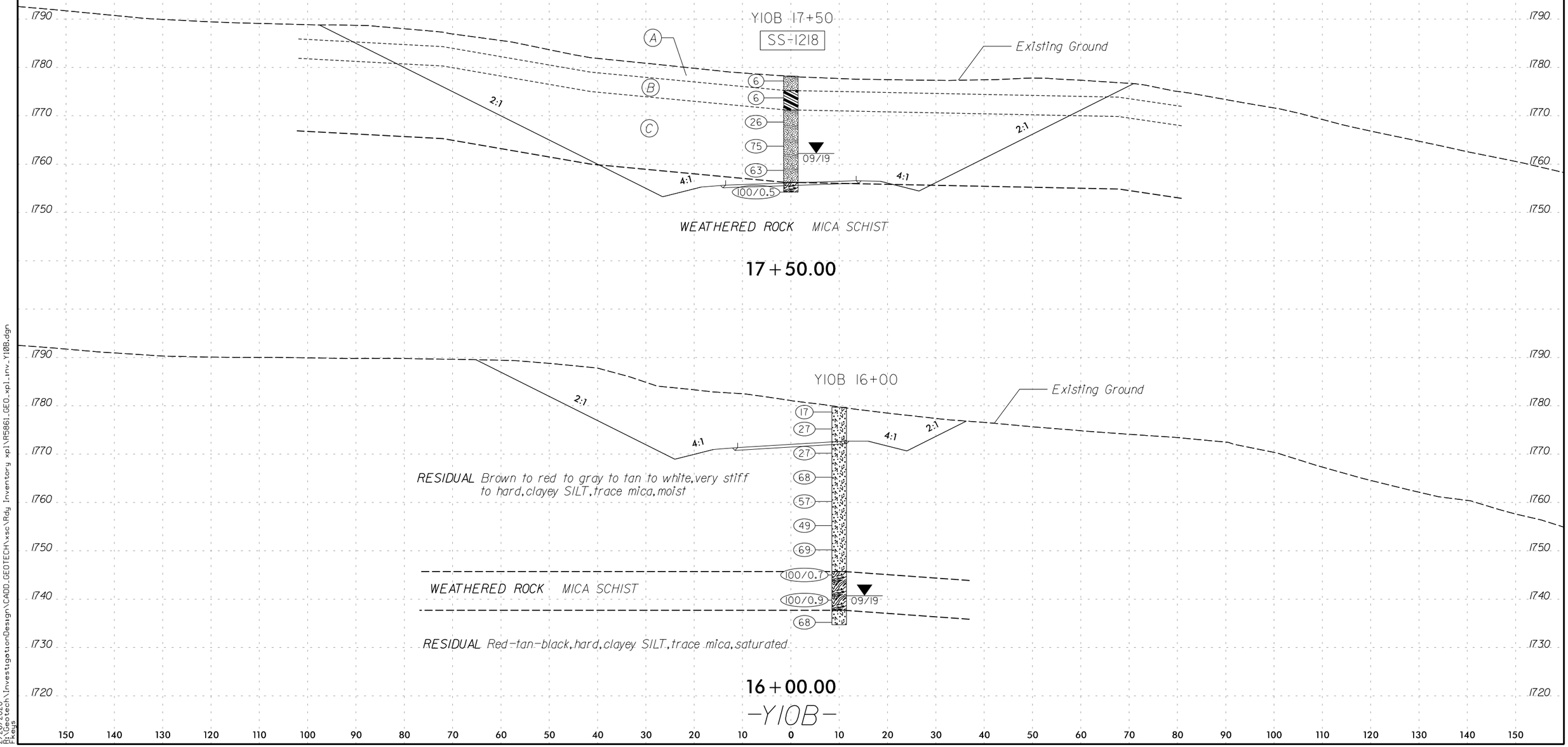
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1218	17+50	0	8.5-10.0	A-4 (5)	38	6	8	28	50	14	100	95	75.2	20.9	-

Ⓐ RESIDUAL Tan-gray-red, medium stiff, sandy SILT, moist

Ⓑ Brown-gray-tan, medium stiff, fine sandy silty CLAY, moist

Ⓒ Red-tan to orange-black-red, hard, fine sandy SILT, trace to little mica, moist to saturated



6/23/15

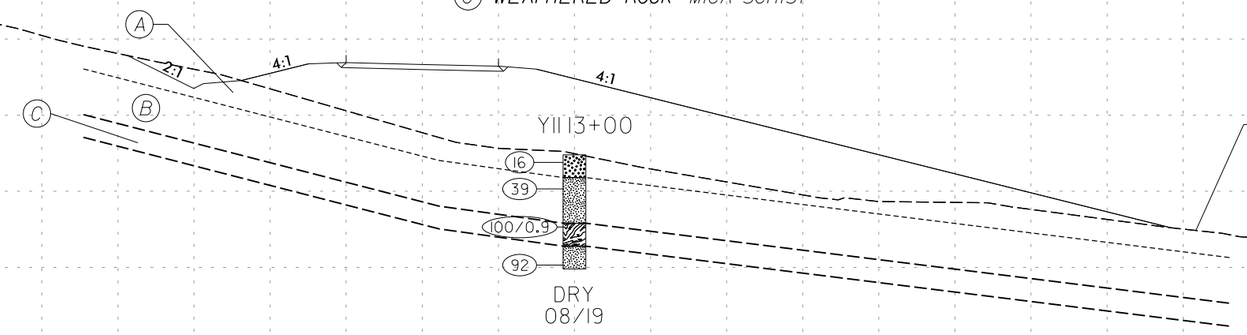
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1780 1770 1760 1750 1740 1730 1720

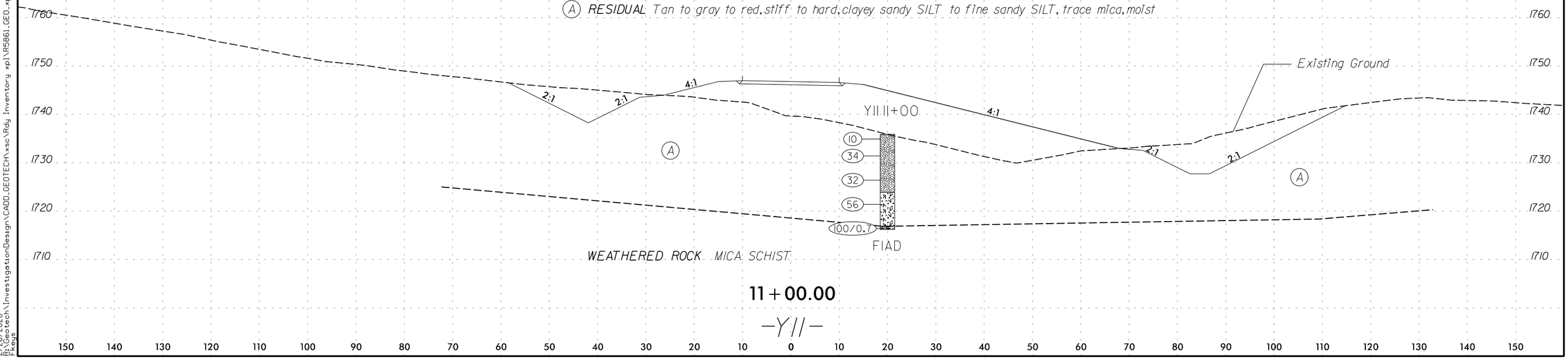
(A) *RESIDUAL* Tan, medium dense, silty fine to coarse SAND, little rock fragments, moist

(B) Tan-orange-gray, hard, fine sandy SILT, trace mica, moist

(C) *WEATHERED ROCK* MICA SCHIST



13+00.00



11+00.00

—Y1/—

2/26/2020
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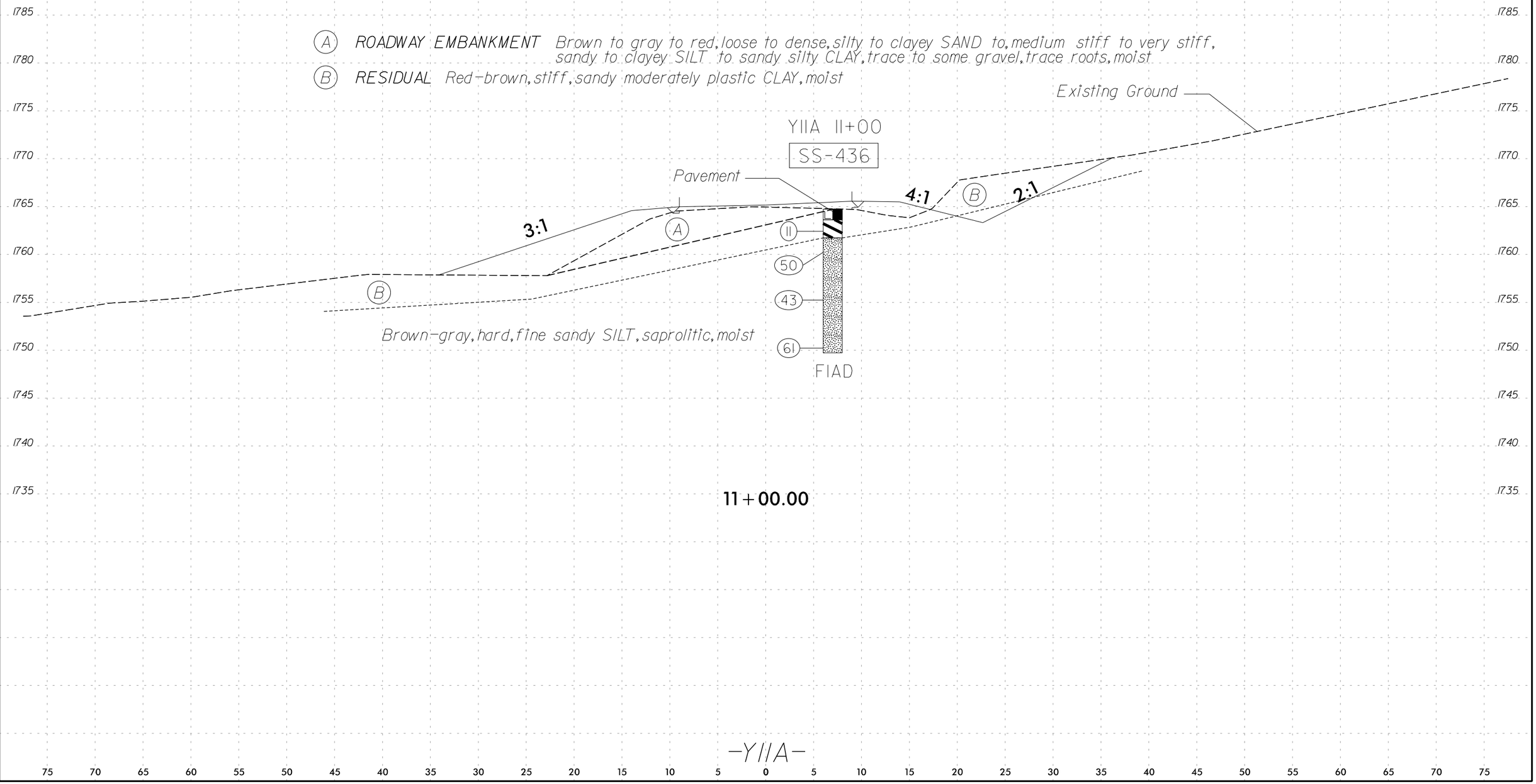
Fkeys

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

SOIL TEST RESULTS

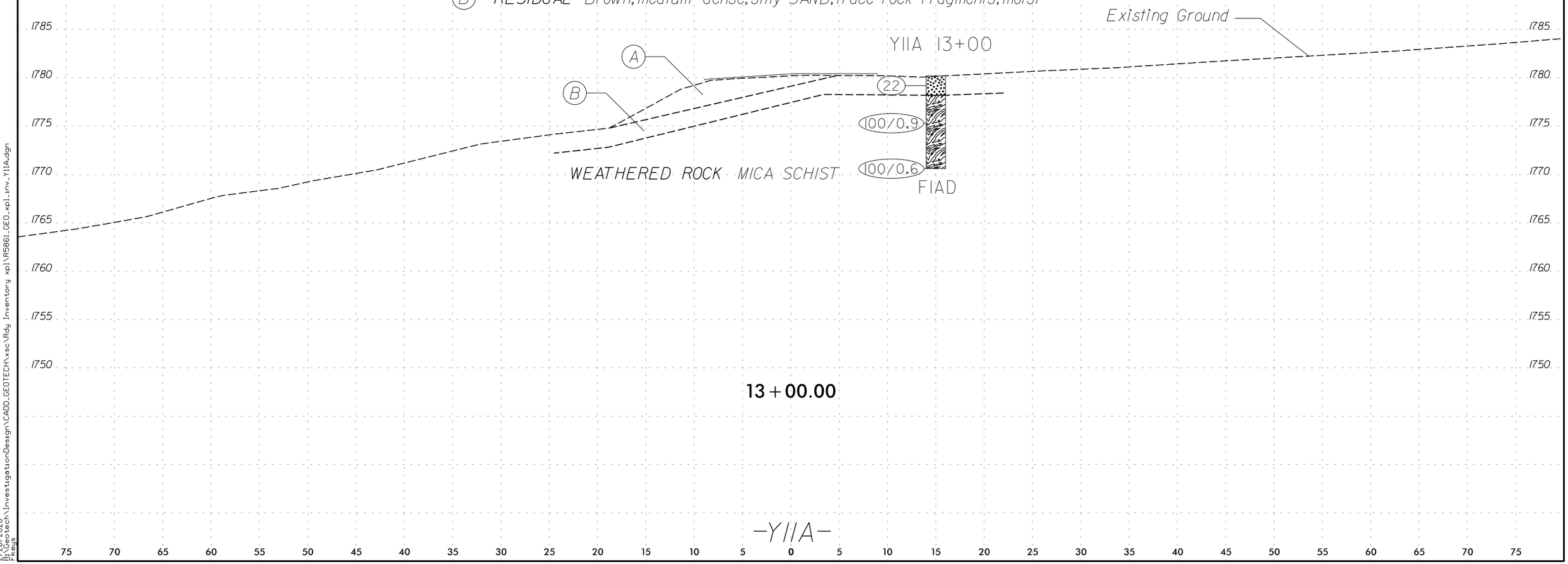
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-436	11+00	7' RT	1.3-2.8	A-7-6 (9)	44	17	16	25	23	36	87	77	59.5	19.5	-



75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

(A) ROADWAY EMBANKMENT Brown to gray to red, loose to dense, silty to clayey SAND to, medium stiff to very stiff, sandy to clayey SILT to sandy silty CLAY, trace to some gravel, trace roots, moist

(B) RESIDUAL Brown, medium dense, silty SAND, trace rock fragments, moist



13+00.00

-Y11A-

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	146

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1630
1620
1610
1600
1590

(A) *RESIDUAL* Brown-tan, stiff, clayey fine sandy SILT, trace mica, trace rock fragments, moist

(A)

Red-tan, medium stiff to stiff, silty CLAY, trace mica, trace rock fragments, moist

Y12 33+00

Existing Ground

10
10
6

DRY
08/19

33+00.00

1670
1630
1620
1610
1600

Existing Ground

Y12 27+00

2:1

21
13
11

DRY
08/19

RESIDUAL Gray-tan, stiff to very stiff, fine sandy clayey SILT, trace to little rock fragments, moist

27+00.00

1660
1650
1640
1630
1620

Y12 21+30
21+30

Existing Ground

4
9
17

DRY
08/19

RESIDUAL Tan-red to brown-tan-gray, medium stiff to very stiff, fine sandy SILT, trace mica, trace rock fragments, moist

21+50.00

-Y12-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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Fkeys

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1630 1620 1610 1600 1590 1580 1570 1560

(A) *RESIDUAL Tan-orange to gray-tan, stiff, fine sandy clayey SILT, trace mica, trace rock fragments, moist*

(B) *Brown, stiff, sandy CLAY, trace mica, trace rock fragments, moist*

Y12 35+00

Existing Ground

13
9
21

DRY
08/19

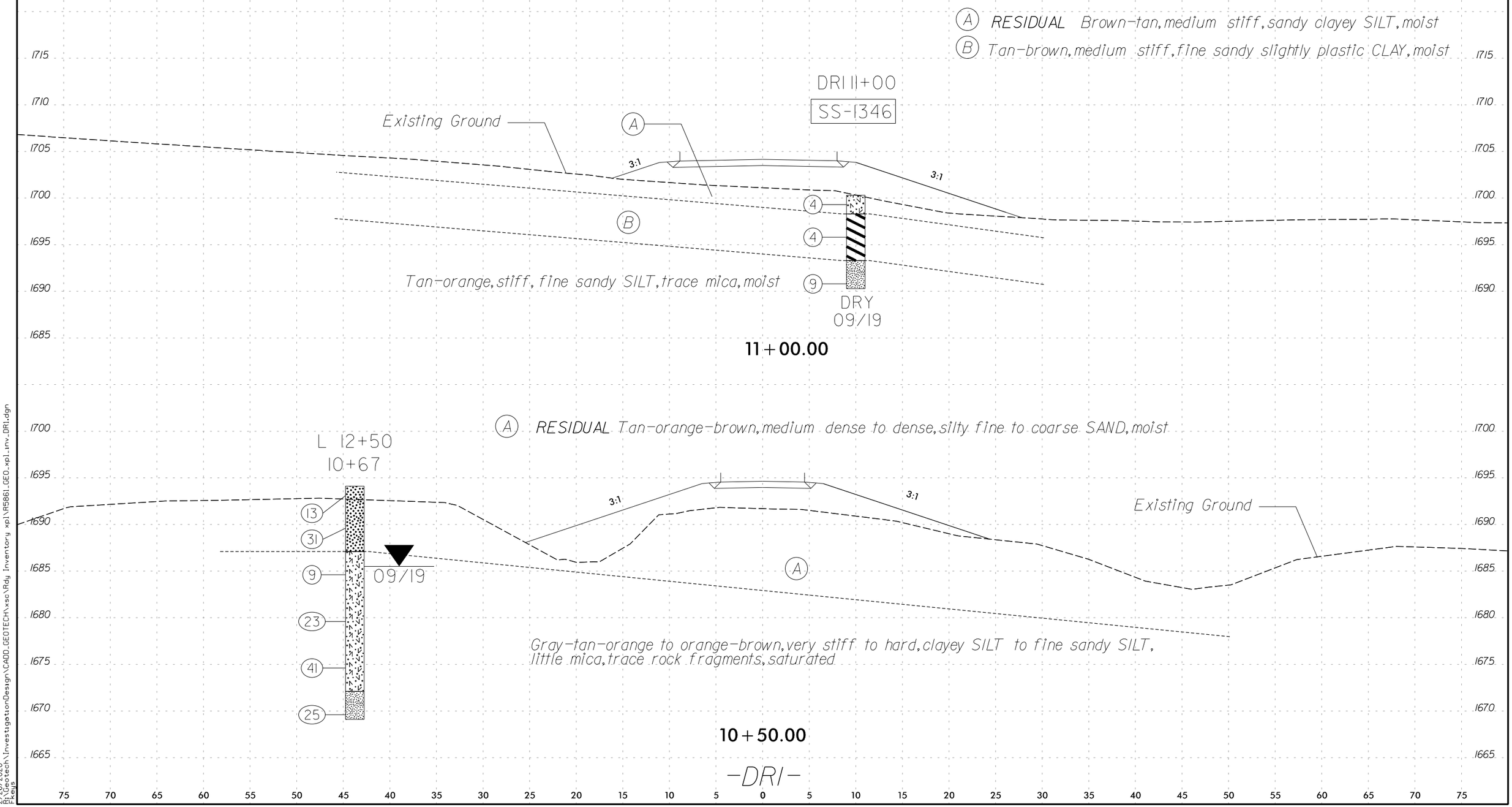
Gray-light tan, very stiff, sandy SILT, trace mica, moist

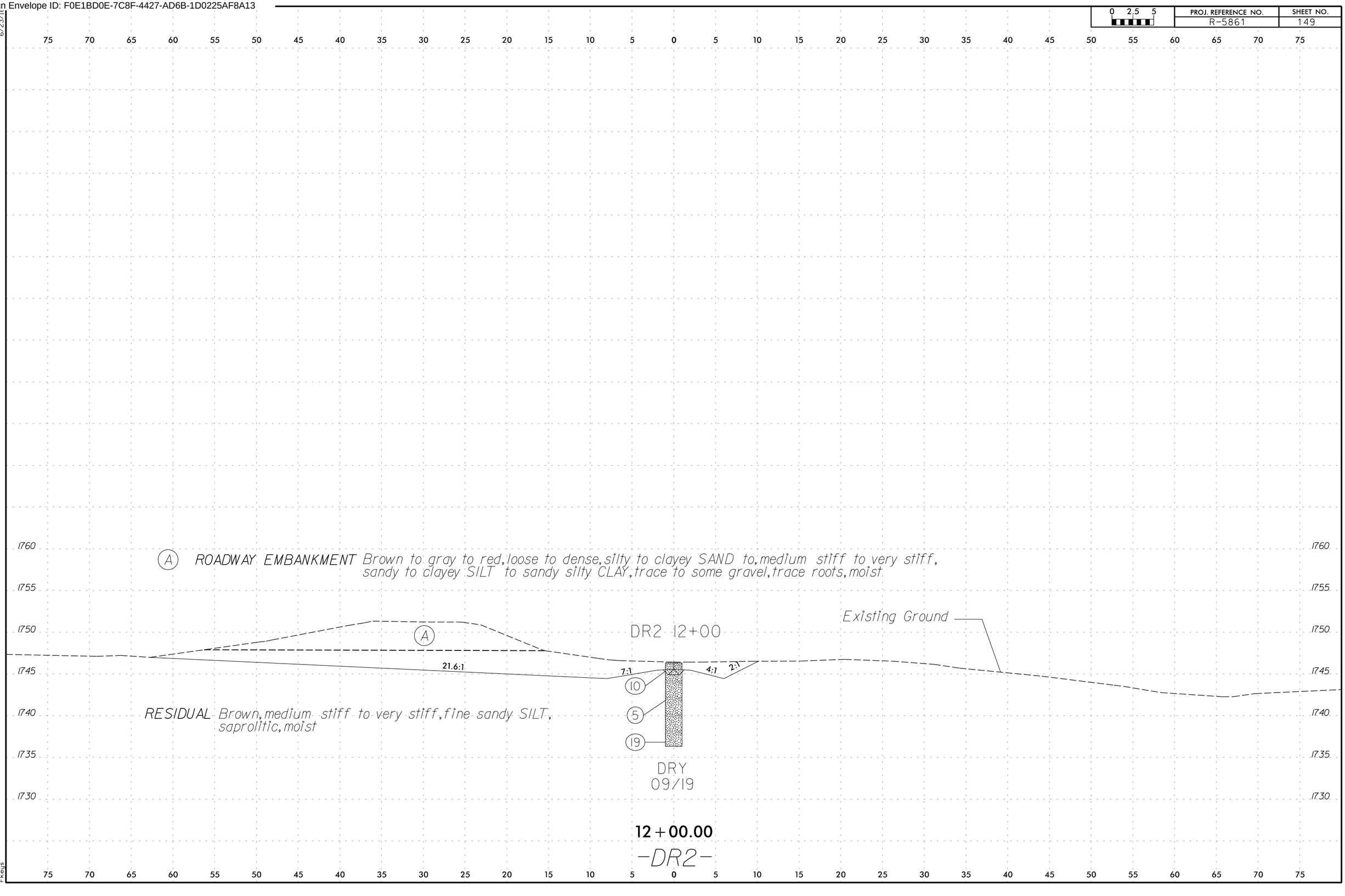
35+00.00

-Y12-

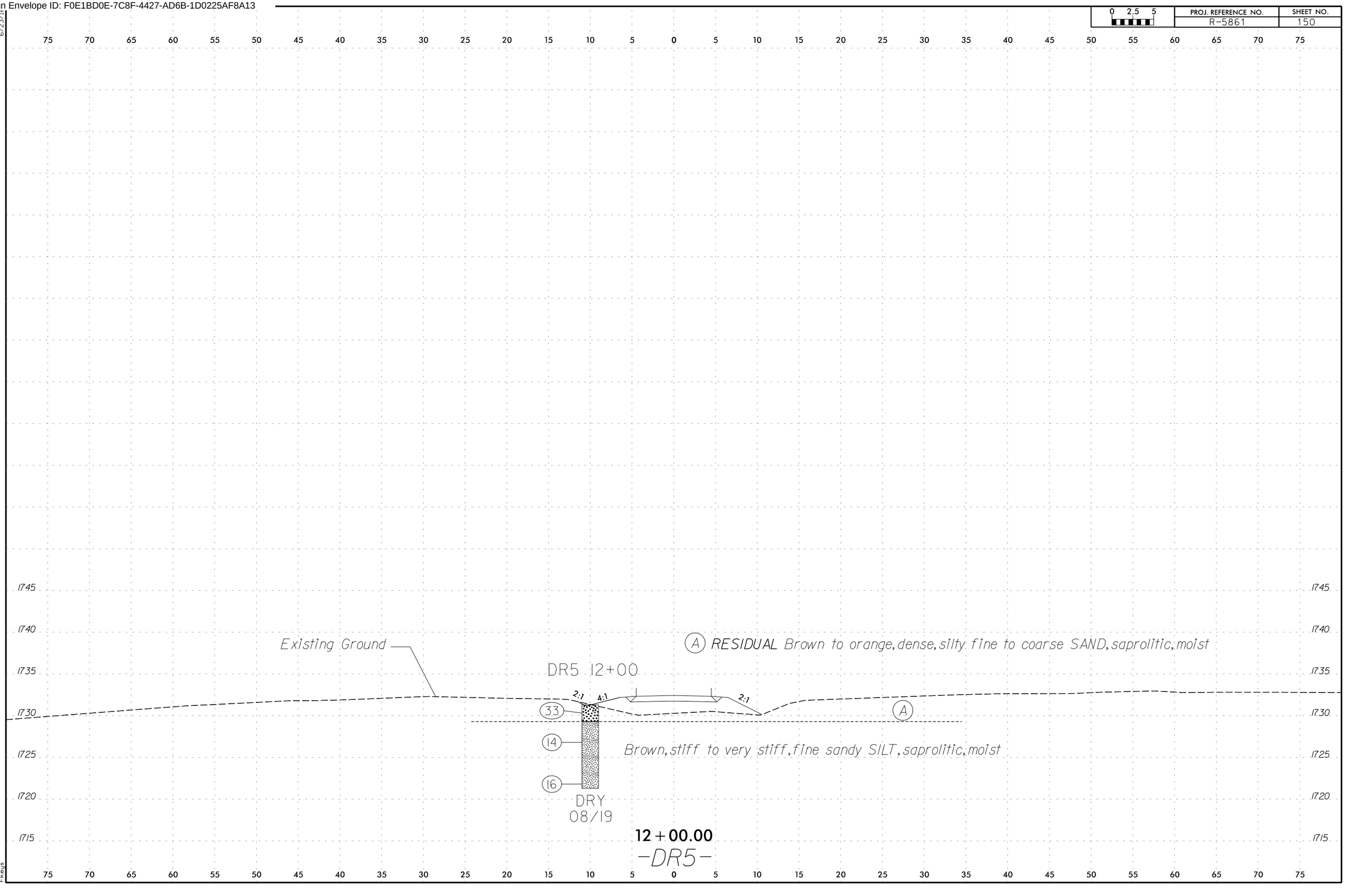
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1346	11+00	20' RT	3.5-5.0	A-7-6 (7)	41	12	8	37	19	36	98	94	62.3	24.3	-





0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	150



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2/26/2020
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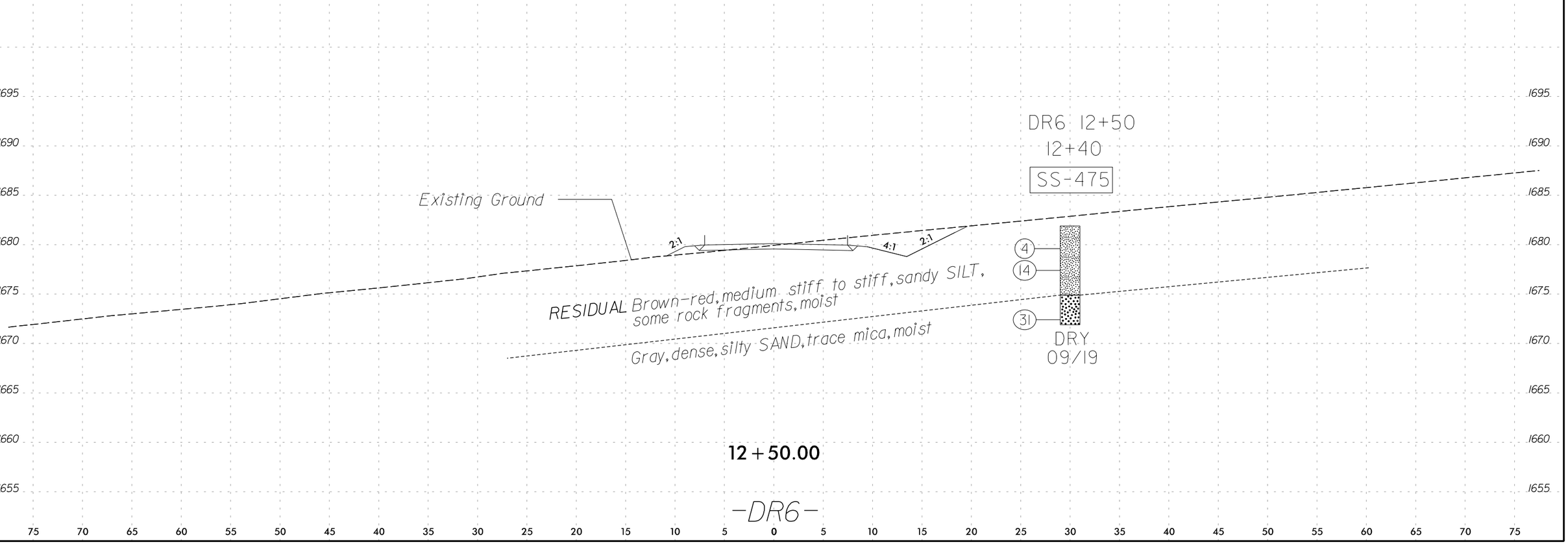
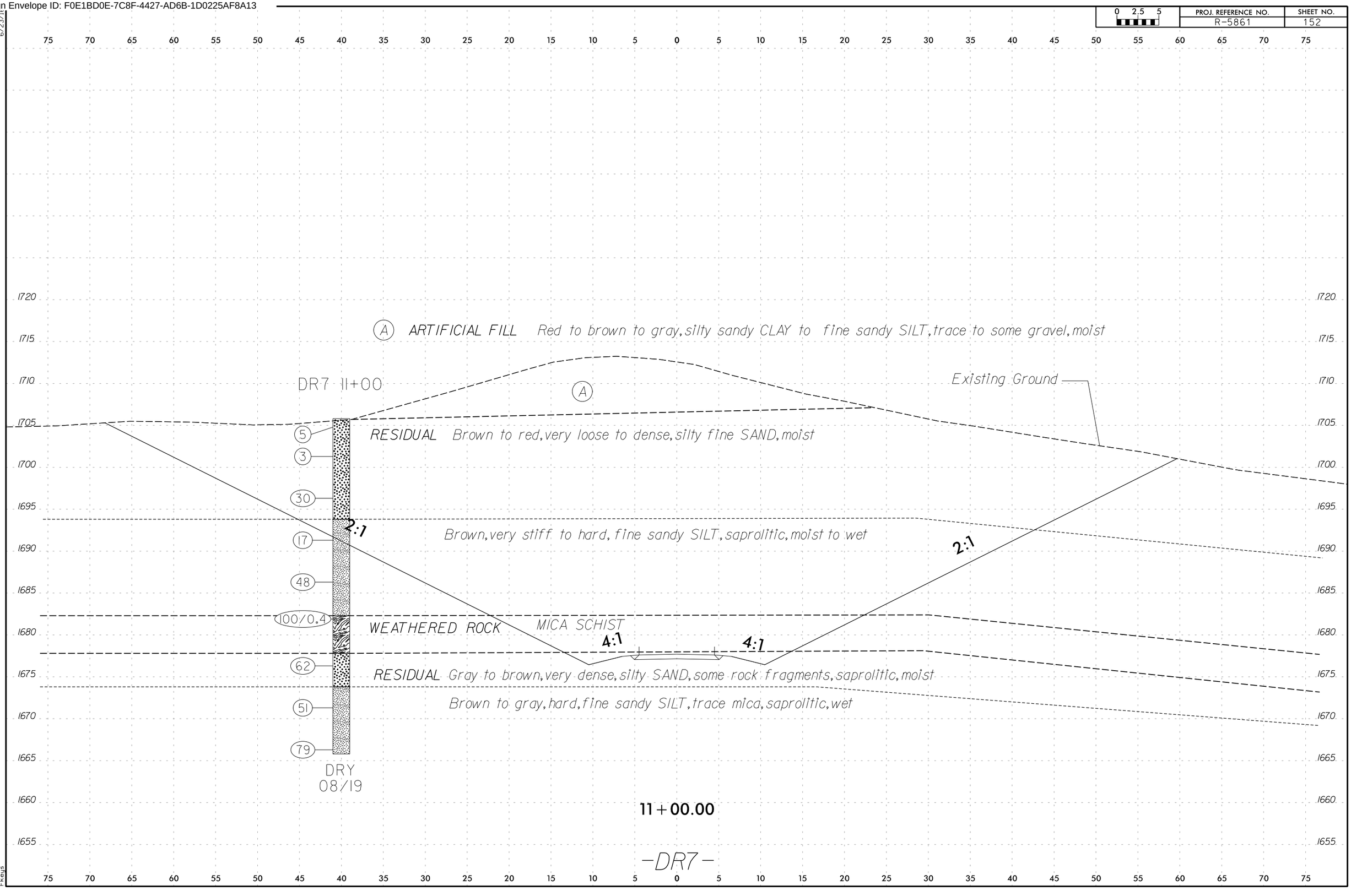
Fkeys

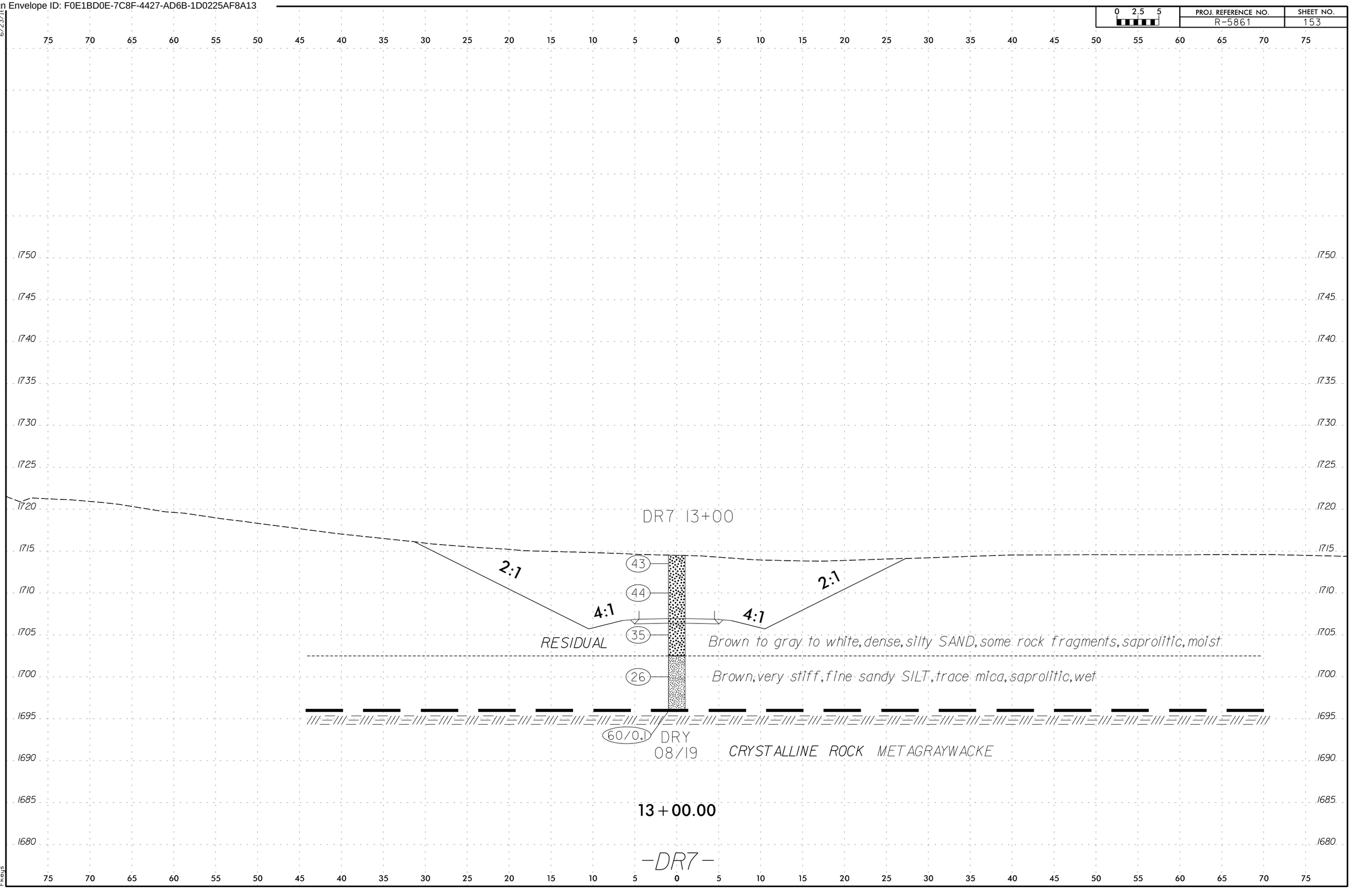
SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-475	12+40	30' RT	1.3-2.8	A-4 (4)	32	10	13	32	21	34	97	91	58.5	18	-





0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	153



6/23/15

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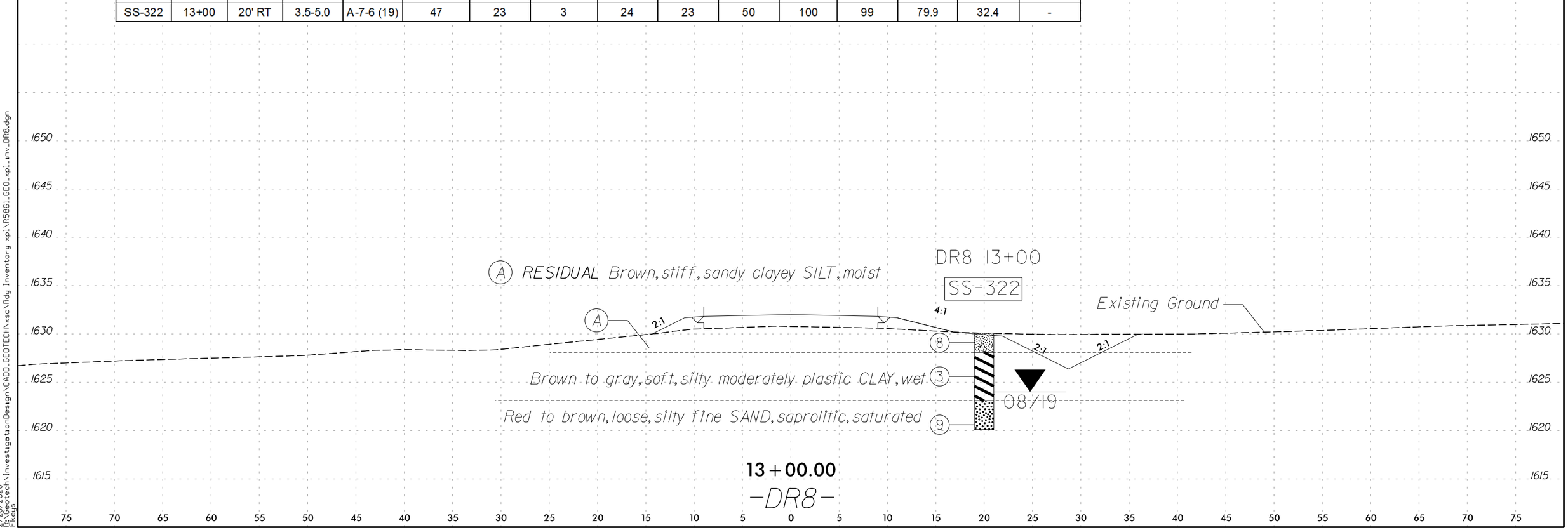
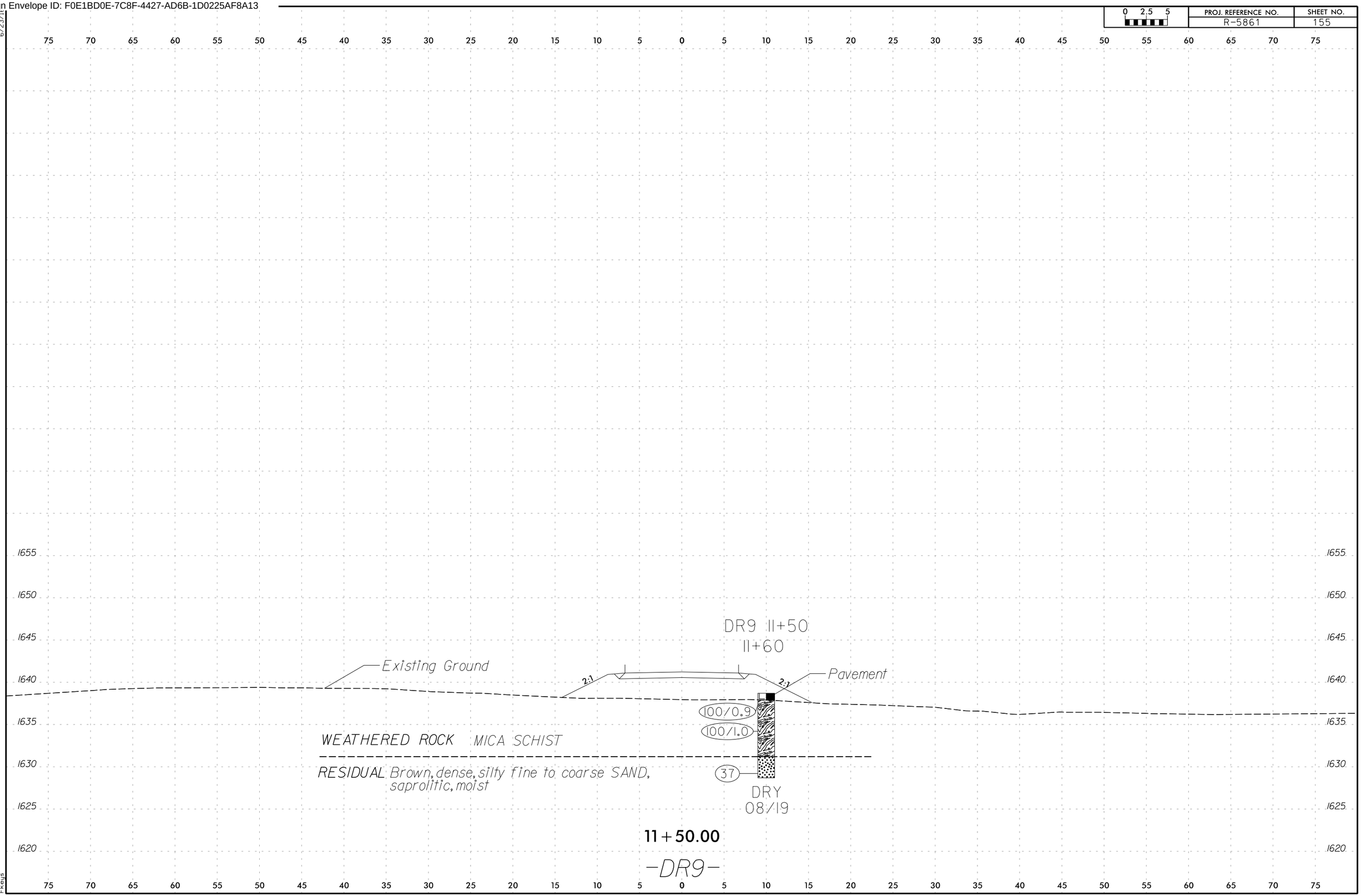
Fkeys

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-322	13+00	20' RT	3.5-5.0	A-7-6 (19)	47	23	3	24	23	50	100	99	79.9	32.4	-



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	155



6/23/16

2/26/2020
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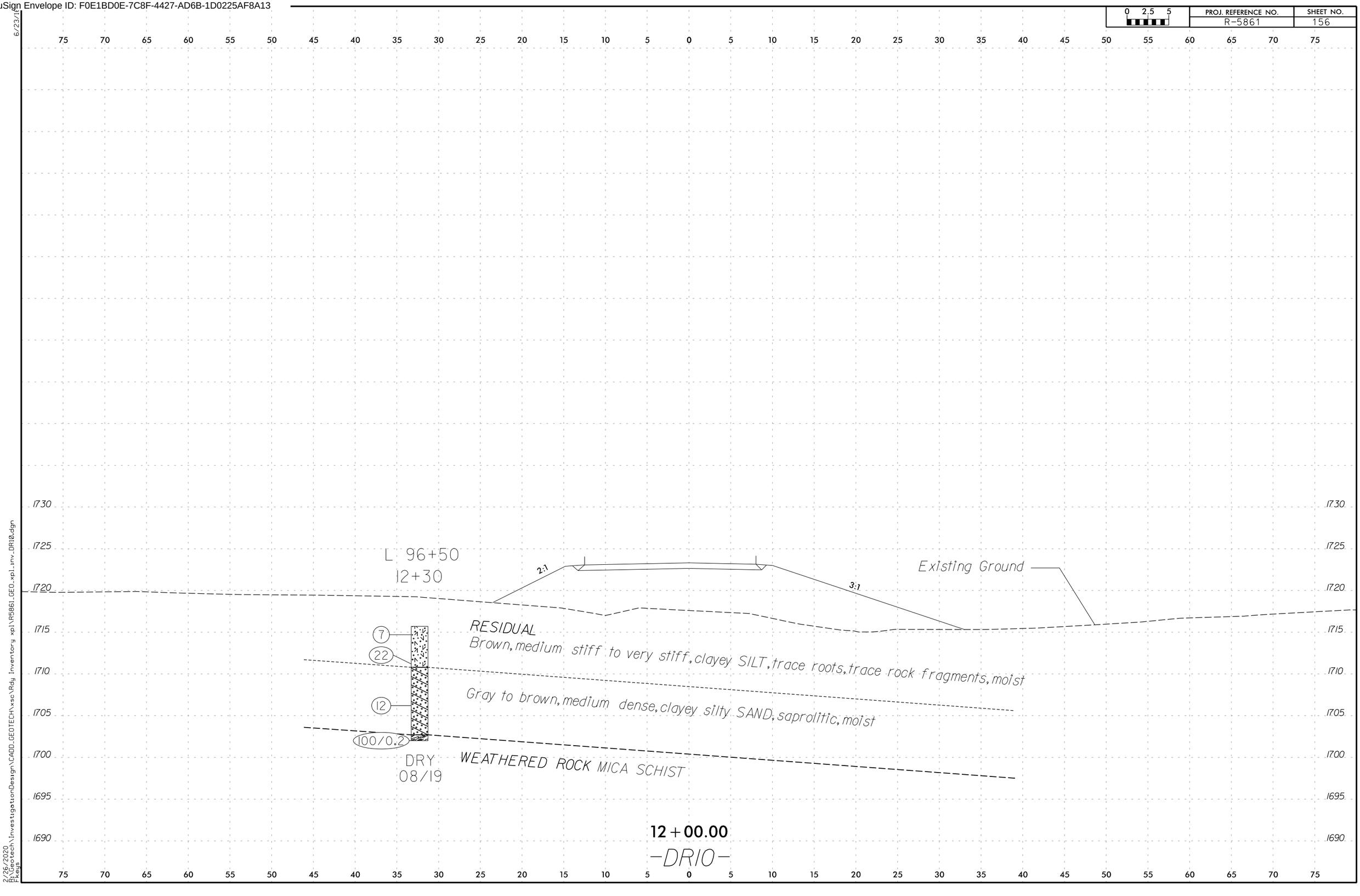
Fkeys

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	156



6/23/16

2/26/2020
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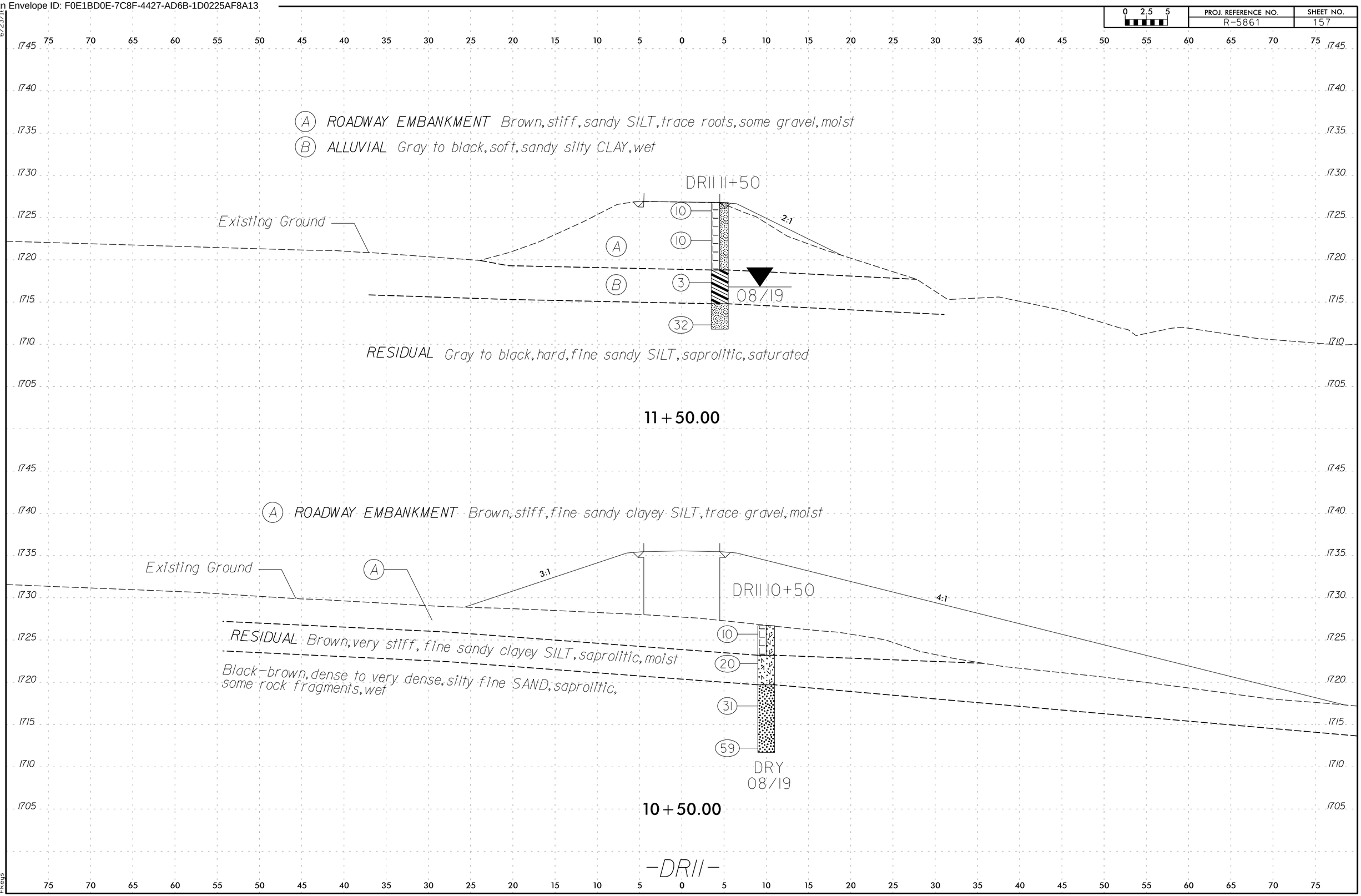
Fkeys

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	157

6/23/15



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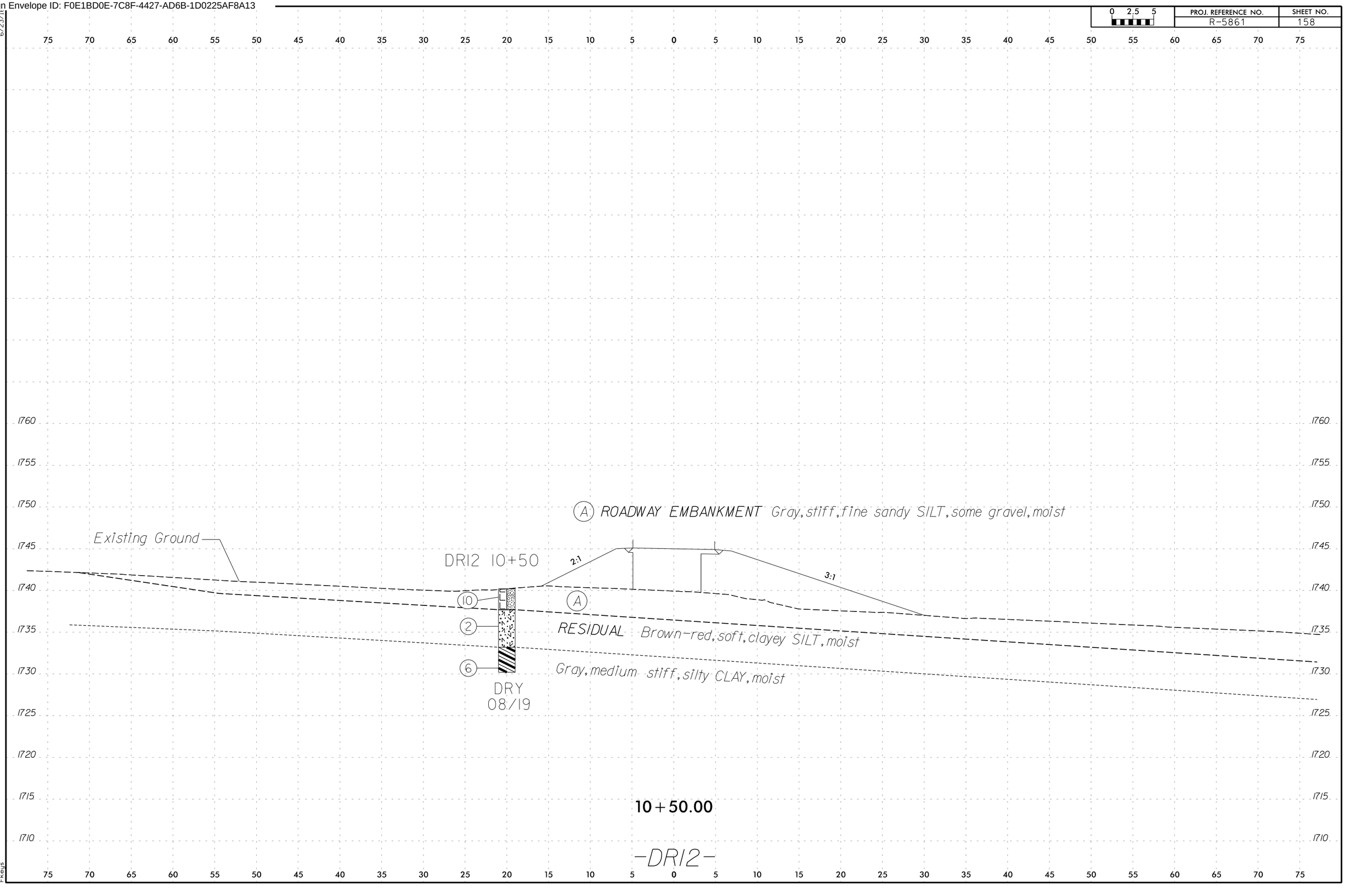
Fkeys

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	158



6/23/15

2/26/2020
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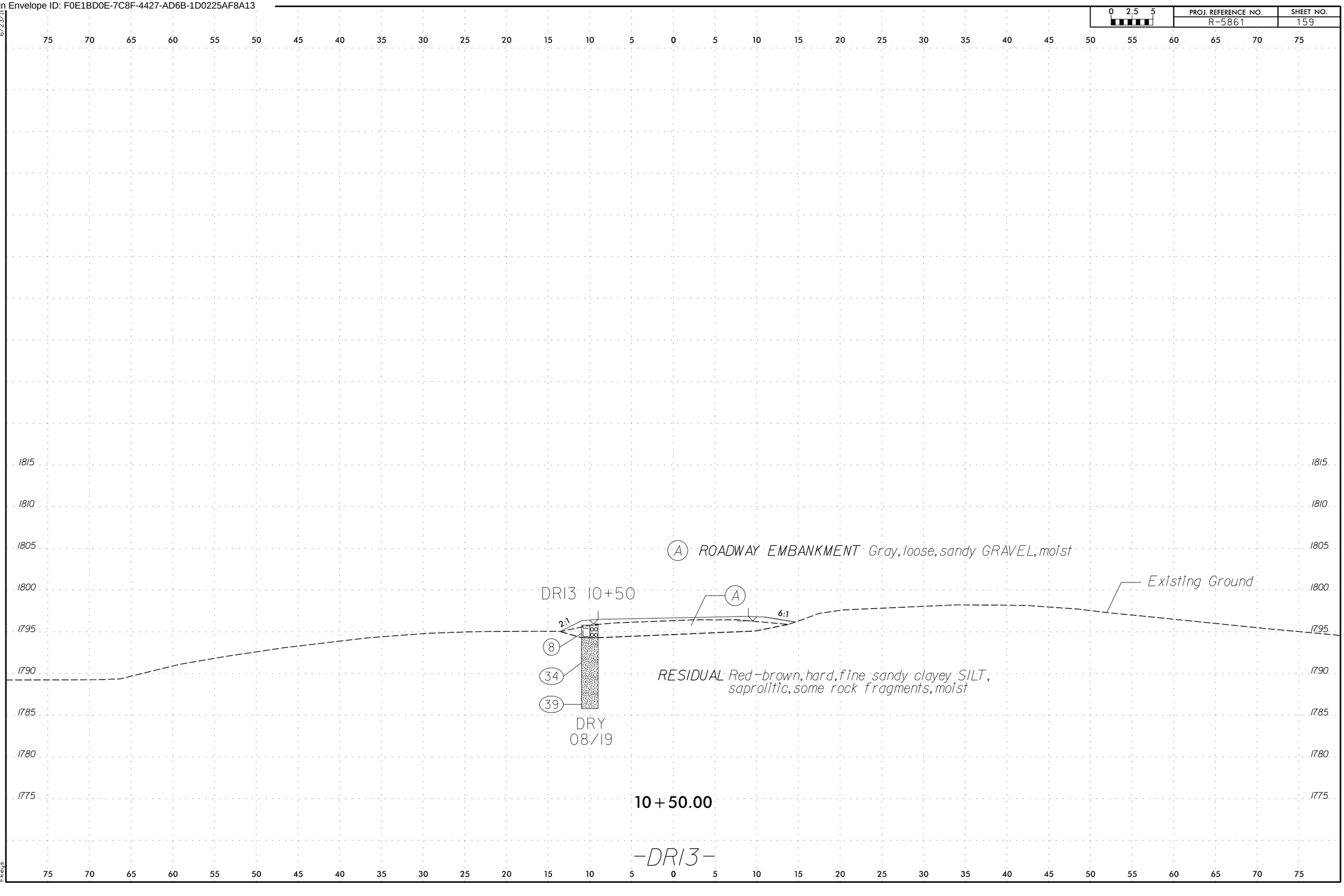
Fkeys

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	159



6/23/16

2/26/2020
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Fkeys

6/23/15

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1810 1800 1790 1780 1770 1760 1750 1740 1730 1720 1710

(A) *RESIDUAL Brown, loose, silty fine SAND, trace roots, moist*

(B) *Brown to gray, medium stiff to stiff, fine sandy clayey SILT, saprolitic, moist*

(C) *WEATHERED ROCK MICA SCHIST*

(D) *RESIDUAL Gray, vey dense, silty SAND, some rock fragments, saprolitic, moist*

L 114+00
10+84

Existing Ground

DRI4 11+00

2:1

4:1

4
100/0.7
100/0.5
51
100/0.8
100/0.4
100/0.8

DRY
08/19

WEATHERED ROCK MICA SCHIST

8
4
100/0.8
100/0.8
100/0.2

DRY
08/19

11+00.00

-DRI4-

2/26/2020
R:\Geotech\InvestigationDesign\CADD_GEOTECH\xsc\Rdy Inventory xpl\R5861_GEO_xpl_inv_DRI4.dgn
Fkeys

(A) RESIDUAL Brown, medium stiff, silty fine SAND, saprolitic, trace rock fragments, moist

(B) WEATHERED ROCK MICA SCHIST

(C) RESIDUAL Brown to red, hard, fine sandy SILT, saprolitic, moist

DRI5 11+00

Existing Ground

2:1

4:1

4:1

2:1

17

100/0.7

99

45

100/0.9

73

87

DRY
08/19

RESIDUAL Brown, very dense, silty SAND, some rock fragments, saprolitic, moist

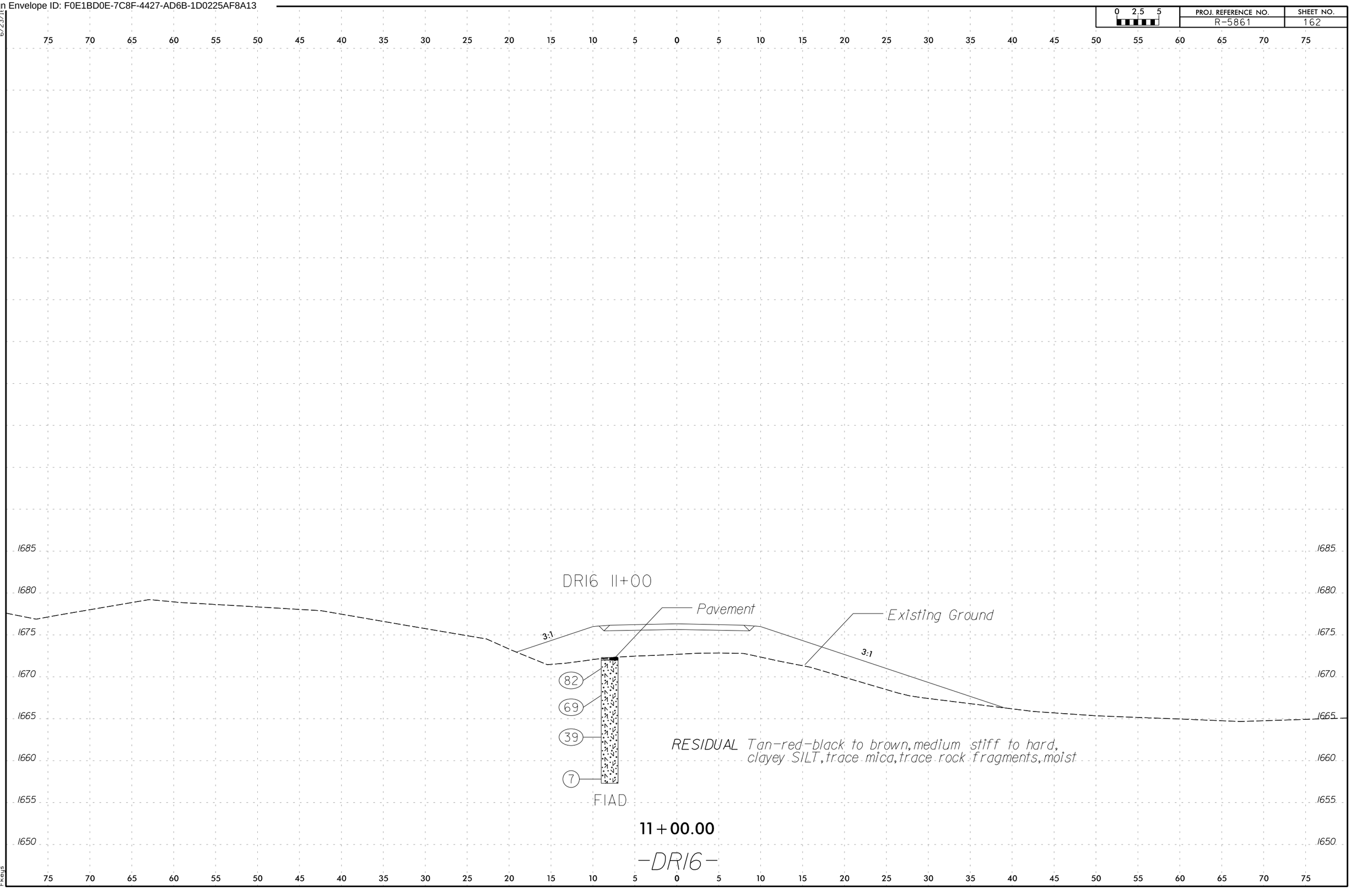
11+00.00

-DRI5-

1715 1710 1705 1700 1695 1690 1685 1680 1675 1670 1665 1660 1655 1650 1645

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	162



6/23/16

2/26/2020
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Fkeys

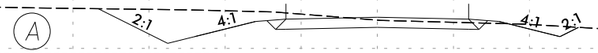
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	163

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

1685 1680 1675 1670 1665 1660 1655

Ⓐ RESIDUAL Tan, stiff, silty moderately plastic CLAY, trace rock fragments, moist

Existing Ground

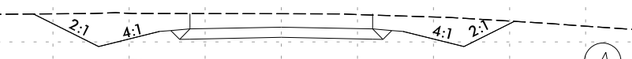


Gray-tan, stiff to hard, fine sandy SILT, trace mica, little rock fragments, moist to saturated

11+25.00

Ⓐ RESIDUAL Tan, stiff, silty moderately plastic CLAY, trace rock fragments, moist

Existing Ground



Gray-tan, stiff to hard, fine sandy SILT, trace mica, little rock fragments, moist to saturated

11+00.00

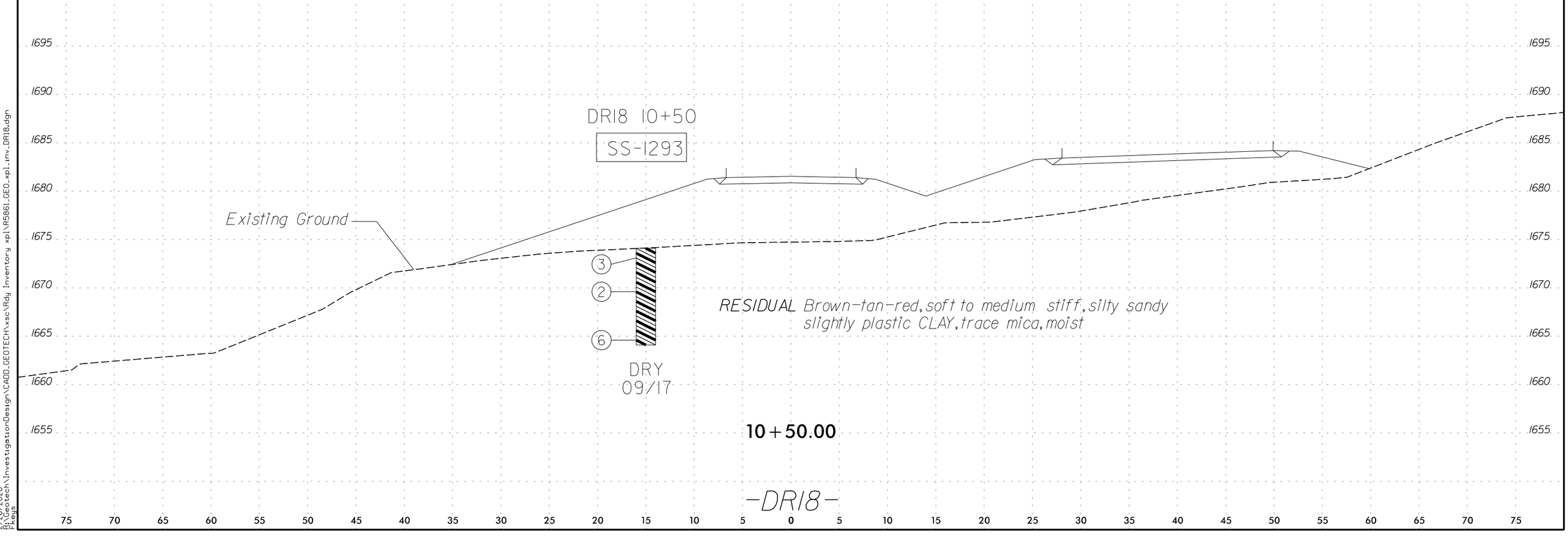
-DR17-

1685 1680 1675 1670 1665 1660 1655 1650 1645

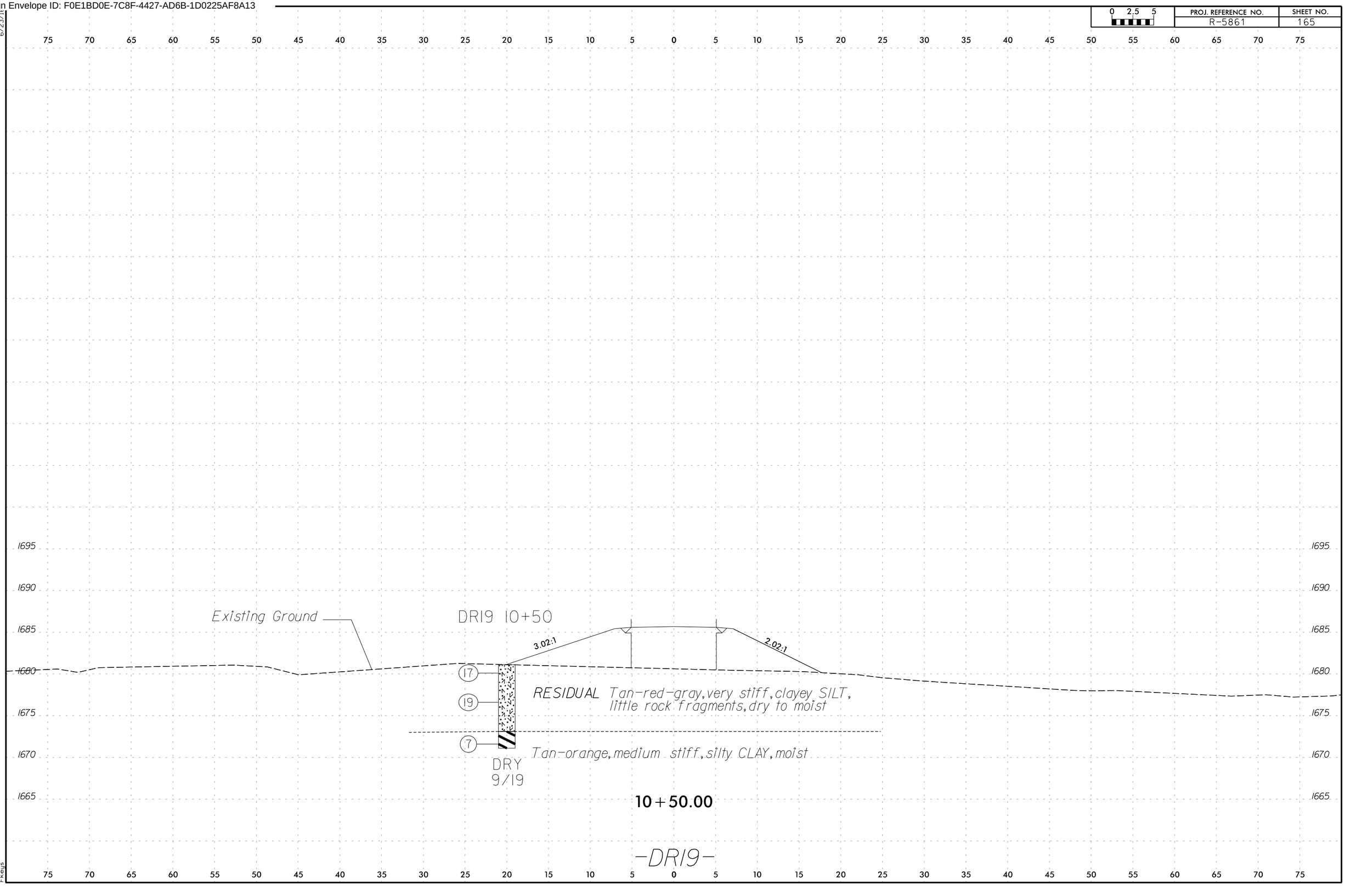
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

SOIL TEST RESULTS

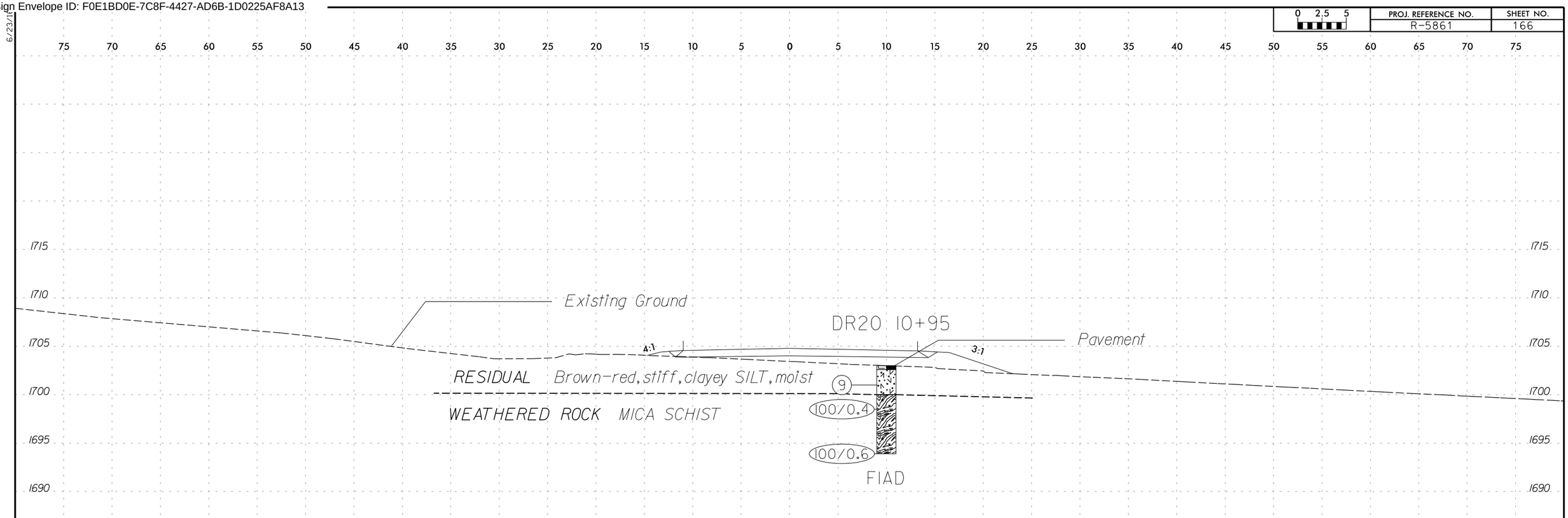
SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1293	10+50	15' LT	3.5-5.0	A-6 (3)	40	11	22	12	32	34	69	57	47.4	24.6	-



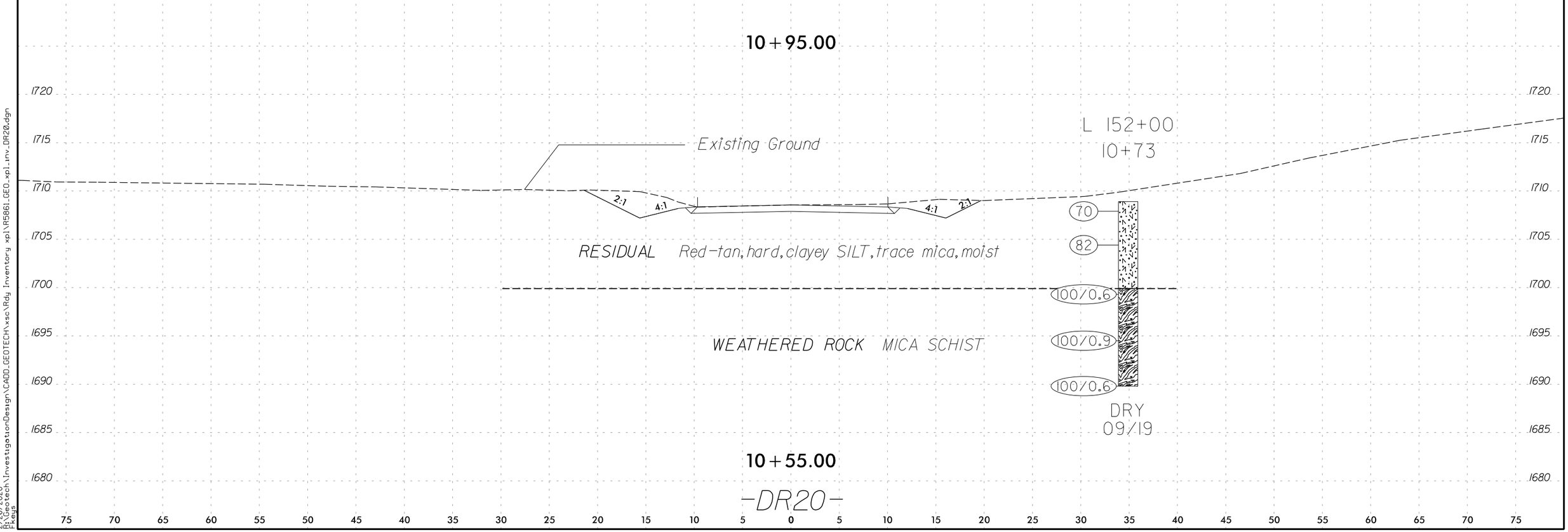
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	165



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	166



10+95.00



10+55.00

-DR20-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

1770 1765 1760 1755 1750 1745 1740 1735 1730 1725 1720

(A) RESIDUAL Red-tan-gray to tan-red-white, stiff to hard, silty slightly plastic CLAY, trace mica, moist

Existing Ground

2:1 4:1 4:1 2:1

(A)

Tan-orange-gray to red-tan-gray, clayey SILT, trace mica, moist

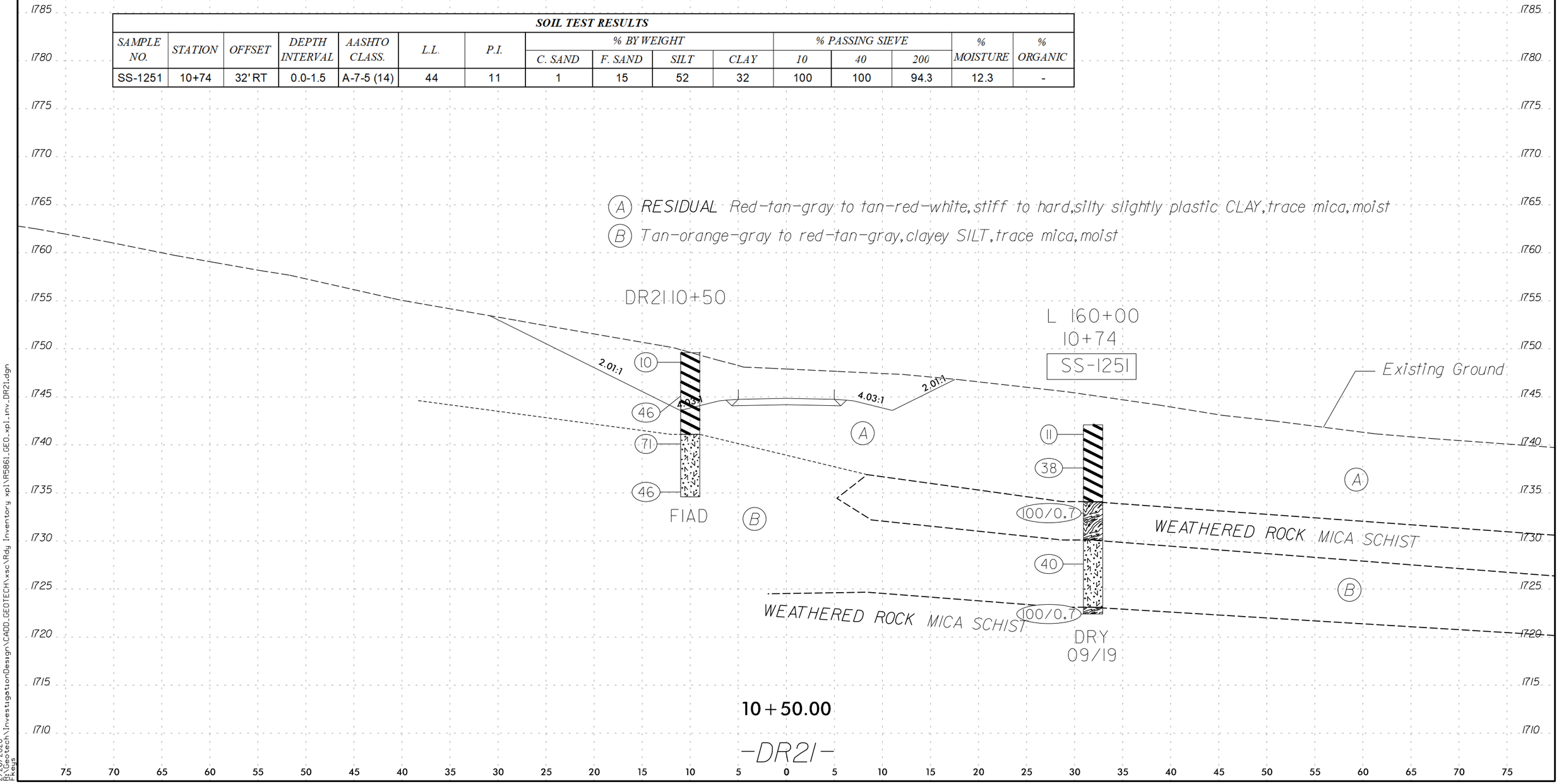
WEATHERED ROCK MICA SCHIST

10+00.00

-DR21-

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVE			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-1251	10+74	32' RT	0.0-1.5	A-7-5 (14)	44	11	1	15	52	32	100	100	94.3	12.3	-

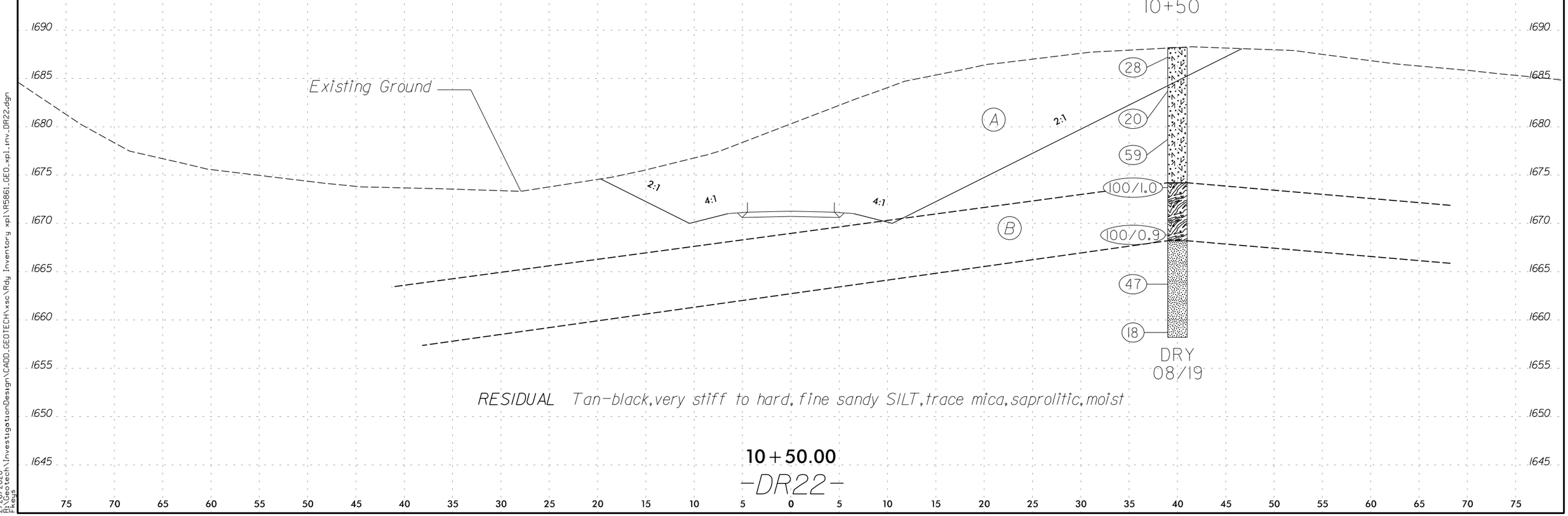


0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	R-5861	169

A RESIDUAL Tan-brown to tan-orange-brown, very stiff to hard, fine sandy clayey SILT, trace mica, saprolitic, moist

B WEATHERED ROCK MICA SCHIST

DR22 11+00
10+50



RESIDUAL Tan-black, very stiff to hard, fine sandy SILT, trace mica, saprolitic, moist

10+50.00
-DR22-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

1750 1745 1740 1735 1730 1725 1720 1715 1710 1705 1700 1695 1690 1685

(A) RESIDUAL Red-tan, very dense, silty fine to coarse SAND, some rock fragments, moist

(B) WEATHERED ROCK MICA SCHIST

(C) RESIDUAL Orange-black-tan to tan-brown-black, stiff to very stiff, fine sandy clayey SILT, trace mica, saprolitic, moist

DR22 13+00

2:1

2:1

72

78

100/0.9

17

40

73

DRY
08/19

13+00.00

-DR22-

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R–5861	1	171

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

ROADWAY SUBSURFACE INVESTIGATION

APPENDICES

REFERENCE: R–5861

PROJECT: 47427

RK&K
P: (919) 878-9560
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NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 47427.1.1	**TIP** R-5861	**COUNTY** CHEROKEE	**GEOLOGIST** Mize, J.	
SITE DESCRIPTION Widening US 19/129 from the Georgia State Line to US 64/74				**GROUND WTR (ft)**
BORING NO. L 94+72 AP	**STATION** 94+72	**OFFSET** 90 ft LT	**ALIGNMENT** L	**0 HR.** Dry
COLLAR ELEV. 1,722.2 ft	**TOTAL DEPTH** 17.7 ft	**NORTHING** 496,083	**EASTING** 478,197	**24 HR.** Dry
DRILL RIG/HAMMER EFF./DATE SME267 DIEDRICH D-50 74% 10/20/2017		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER Blizzard, B.	**START DATE** 08/13/19	**COMP. DATE** 08/13/19	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
1725										ELEV. (ft) DEPTH (ft)
										1,722.2 GROUND SURFACE 0.0
1720										**RESIDUAL** Brown, sandy SILT (A-4)
1715										1,713.2 9.0
1710	1,711.0	11.2	100/0.4			100/0.4				**WEATHERED ROCK** MICA SCHIST
	1,708.7	13.5	44	40	60/0.2	100/0.7				
1705	1,704.5	17.7	60/0.0			60/0.0				1,704.5 17.7
										Boring Terminated BY AUGER REFUSAL at Elevation 1,704.5 ft on Crystalline Rock: MICA SCHIST

Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T 193

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

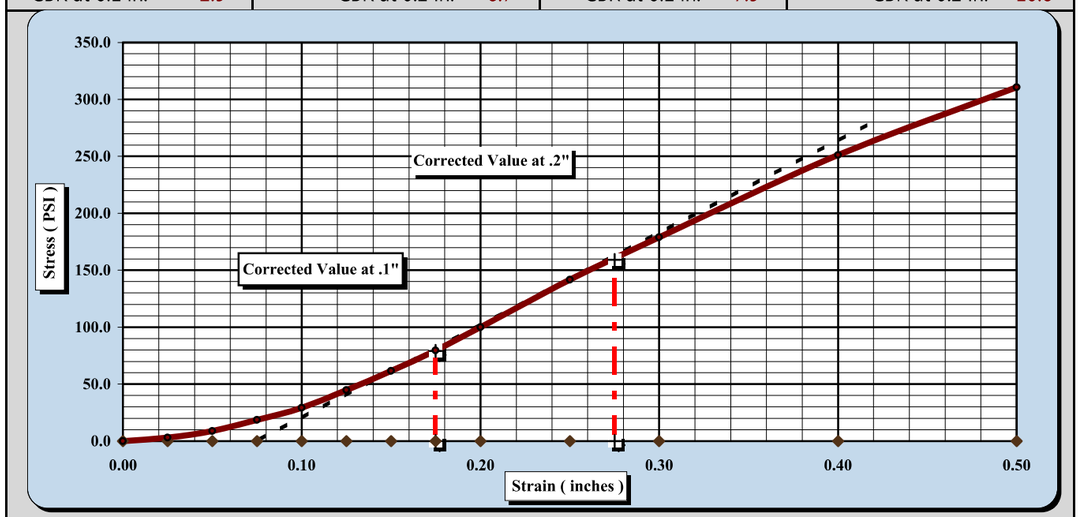
Project #:	1934-19-002	Report Date:	10/16/2019
Project Name:	R-5861 US19/129 from Georgia State Line to US64/74	Test Date(s)	10/10 - 10/16/19
Client Name:	RK&K		
Client Address:	Raleigh, NC		

Boring #:	L 90+00 AP	Sample #:	S-225	Sample Date:	N/A
Station #:	90+00	Offset:	N/A	Depth (ft):	1.0-8.5
Sample Description:	Tan Coarse to Fine Sandy Silty CLAY (A-4) (0)				

AASHTO T99 *Method A* Maximum Dry Density: 115.0 PCF Optimum Moisture Content: 14.5%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 2.9	CBR at 0.2 in. 6.7	CBR at 0.1 in. 7.9	CBR at 0.2 in. 10.6



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	114.4
Initial Dry Density (PCF)	115.0	Average Final Moisture Content	16.0%
Moisture Content of the Compacted Specimen	14.5%	Moisture Content (top 1" after soaking)	17.8%
Percent Compaction	100.0%	Percent Swell	0.7%

Soak Time:	96 hrs.	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	29	Plastic Index	5		

Notes/Deviations/References:

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET		Laboratory Manager	10/16/2019
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

SHEET 172

Quality Assurance

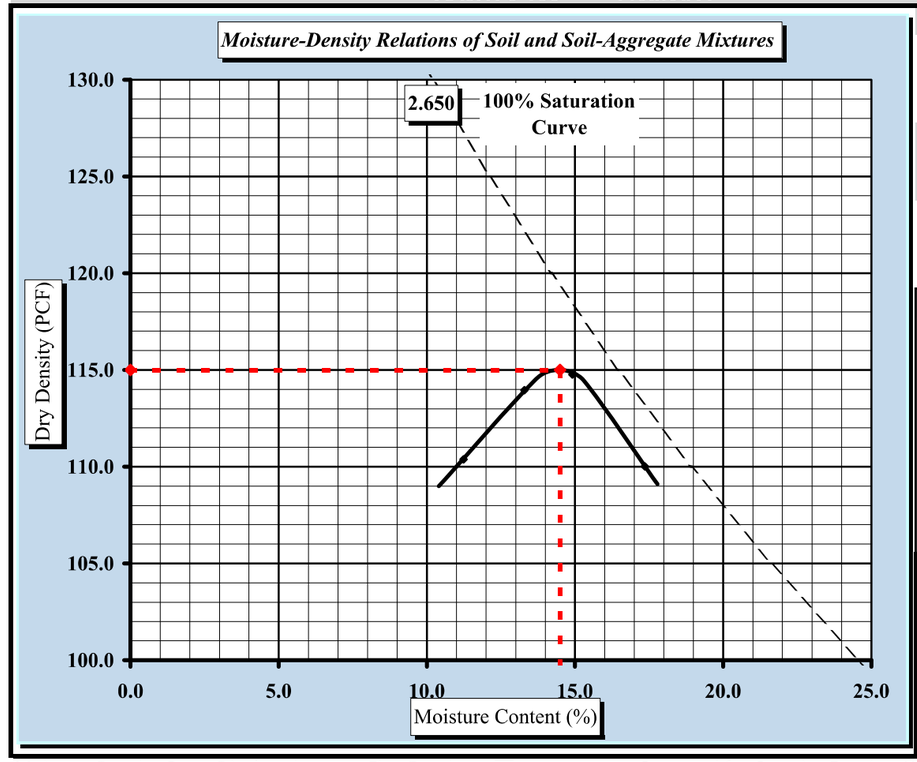
S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

S&ME Project #:	1943-19-002	Report Date:	10/11/2019
Project Name:	R-5861 US19/129 from Georgia State Line to US64/74	Test Date(s):	10/4 - 10/11/19
Client Name:	RK&K		
Client Address:	Raleigh, NC		

Boring #:	L 900+00 AP	Sample #:	S-225	Sample Date:	N/A
Satation:	90+00	Offset:	N/A	Depth (ft):	1.0 - 8.5 ft.
Sample Description:	Tan Coarse to Fine Sandy Silty CLAY (A-4) (0)				

Maximum Dry Density 115.0 PCF. Optimum Moisture Content 14.5%

AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	9.2%
Assumed Specific Gravity	2.650
Liquid Limit	29
Plastic Limit	24
Plastic Index	5
% Passing	
3/4"	100.0%
3/8"	99.0%
#4	98.0%
#10	96.0%
#40	92.0%
#60	86.0%
#200	46.2%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations:

AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET		Laboratory Manager	10/11/2019
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T 193

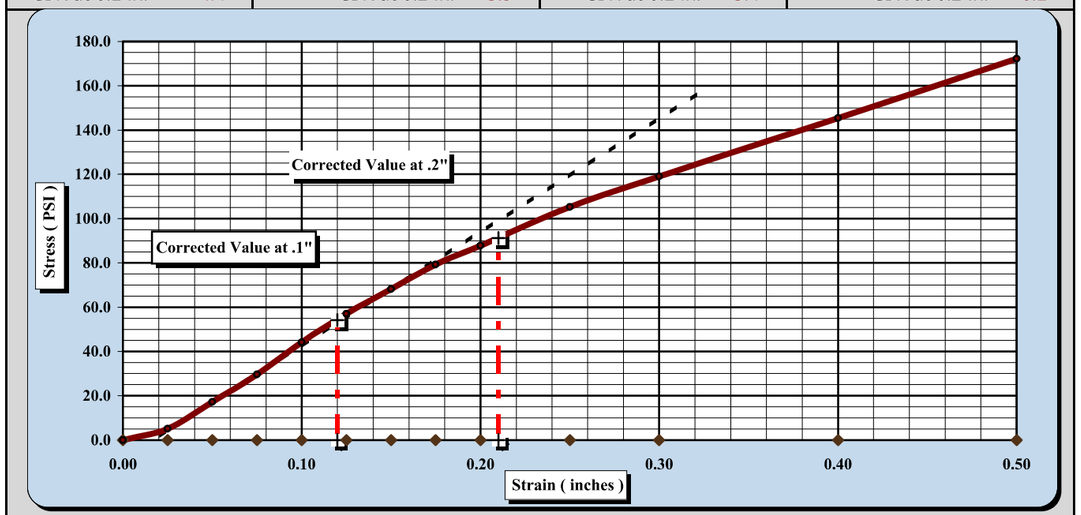
S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	1934-19-002	Report Date:	10/16/2019
Project Name:	R-5861 US19/129 from Georgia State Line to US64/74	Test Date(s)	10/10 - 10/16/19
Client Name:	RK&K		
Client Address:	Raleigh, NC		
Boring #:	LDET6 23+65.75	Sample #: S-1041	Sample Date: N/A
Station #:	23+65.75	Offset: N/A	Depth (ft): 0.0 - 8.5 ft.
Sample Description:	Tan Coarse to Fine Sandy Clayey SILT (A-4) (8)		

AASHTO T99 *Method A* Maximum Dry Density: 107.1 PCF Optimum Moisture Content: 17.9%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 4.4	CBR at 0.2 in. 5.9	CBR at 0.1 in. 5.4	CBR at 0.2 in. 6.1



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	105.4
Initial Dry Density (PCF)	106.8	Average Final Moisture Content	19.9%
Moisture Content of the Compacted Specimen	17.8%	Moisture Content (top 1" after soaking)	22.3%
Percent Compaction	99.7%	Percent Swell	1.5%

Soak Time: 96 hrs. Surcharge Weight 10.0 Surcharge Wt. per sq. Ft. 50.9
Liquid Limit 39 Plastic Index 10

Notes/Deviations/References:
Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET — *Technical Responsibility* | *Signature* | Laboratory Manager — *Position* | 10/16/2019 — *Date*

Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

Quality Assurance

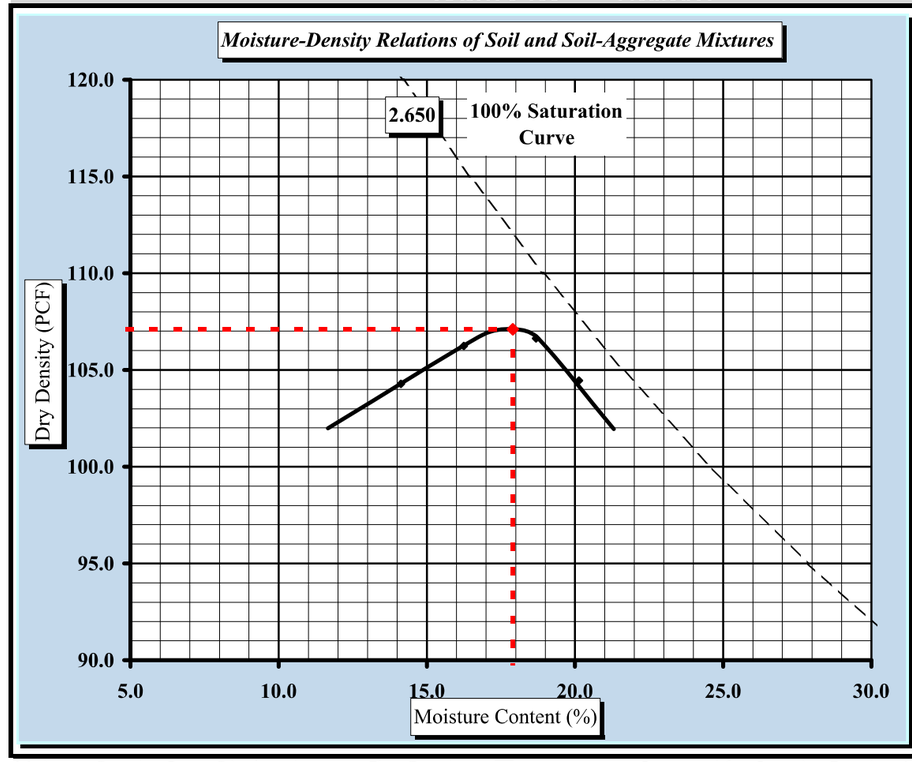
SHEET 174

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

S&ME Project #:	1943-19-022			Report Date:	10/11/2019
Project Name:	R-5861 US19/129 from Georgia State Line to US64/74			Test Date(s):	10/4 - 10/11/19
Client Name:	RK&K				
Client Address:	Raleigh, NC				
Boring #:	LDET6 23+65.75	Sample #:	S-1041	Sample Date:	N/A
Station:	23+65.75	Offset:	N/A	Depth (ft):	0.0 - 8.5 ft.
Sample Description:	Tan Coarse to Fine Sandy Clayey SILT (A-4) (8)				

Maximum Dry Density 107.1 PCF. Optimum Moisture Content 17.9%

AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	1.3%
Assumed Specific Gravity	2.650
Liquid Limit	39
Plastic Limit	29
Plastic Index	10
% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.0%
#40	97.0%
#60	96.0%
#200	78.3%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐
Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐
Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations:
AASHTO T265: Laboratory Determination of Moisture Content of Soils
AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET — *Technical Responsibility* | *Signature* | Laboratory Manager — *Position* | 10/11/2019 — *Date*

Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T 193

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

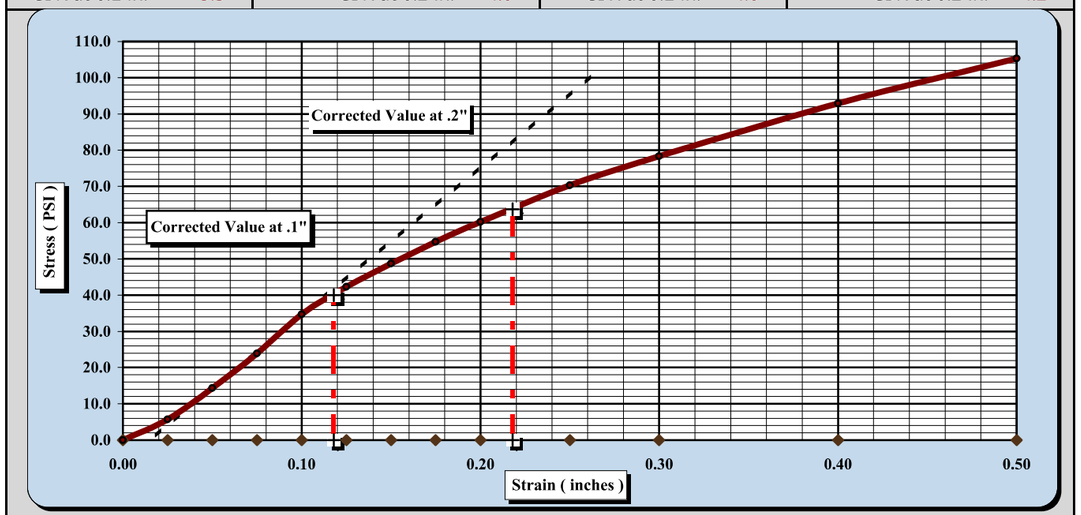
Project #:	1934-19-002	Report Date:	10/16/2019
Project Name:	R-5861 US19/129 from Georgia State Line to US64/74	Test Date(s)	10/10 - 10/16/19
Client Name:	RK&K		
Client Address:	Raleigh, NC		

Boring #:	L 172+00	Sample #:	S-1159	Sample Date:	N/A
Station #:	172+00	Offset:	N/A	Depth (ft):	0.0 - 8.5 ft.
Sample Description:	Red Coarse to Fine Sandy Silty CLAY (A-7-5) (23)				

AASHTO T99 *Method A* Maximum Dry Density: 101.0 PCF Optimum Moisture Content: 20.8%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 3.5	CBR at 0.2 in. 4.0	CBR at 0.1 in. 4.0	CBR at 0.2 in. 4.2



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with AASHTO T 193, Section 5.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	99.4
Initial Dry Density (PCF)	100.8	Average Final Moisture Content	22.5%
Moisture Content of the Compacted Specimen	20.9%	Moisture Content (top 1" after soaking)	24.8%
Percent Compaction	99.8%	Percent Swell	1.6%

Soak Time:	96 hrs.	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	64	Plastic Index	31		

Notes/Deviations/References:

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET		Laboratory Manager	10/16/2019
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

SHEET 175

Quality Assurance

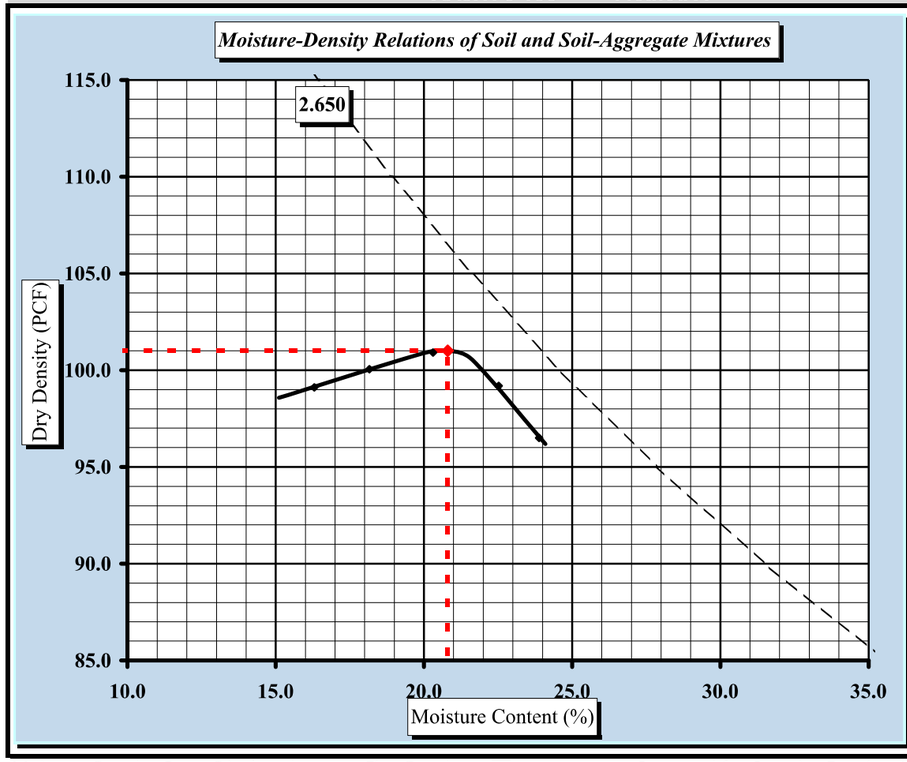
S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

S&ME Project #:	1943-19-002	Report Date:	10/11/2019
Project Name:	R-5861 US19/129 from Georgia State Line to US64/74	Test Date(s):	10/4 - 10/11/19
Client Name:	RK&K		
Client Address:	Raleigh, NC		

Boring #:	L 172+00	Sample #:	S-1159	Sample Date:	N/A
Station:	172+00	Offset:	N/A	Depth (ft):	0.0 - 8.5 ft.
Sample Description:	Red Coarse to Fine Sandy Silty CLAY (A-7-5) (23)				

Maximum Dry Density 101.0 PCF. Optimum Moisture Content 20.8%

AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	10.3%
Assumed Specific Gravity	2.650
Liquid Limit	64
Plastic Limit	33
Plastic Index	31
% Passing	
3/4"	100.0%
3/8"	99.0%
#4	99.0%
#10	97.0%
#40	89.0%
#60	86.0%
#200	70.8%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations:

AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET		Laboratory Manager	10/11/2019
Technical Responsibility	*Signature*	*Position*	*Date*